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EDINBURGH
MEDICAL AND SURGICAL
JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

MEDICINE, SURGERY, AND PHARMACY.

VOLUME TWELFTH.

1816.

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THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1816.

PART I.

ORIGINAL COMMUNICATIONS.

I.

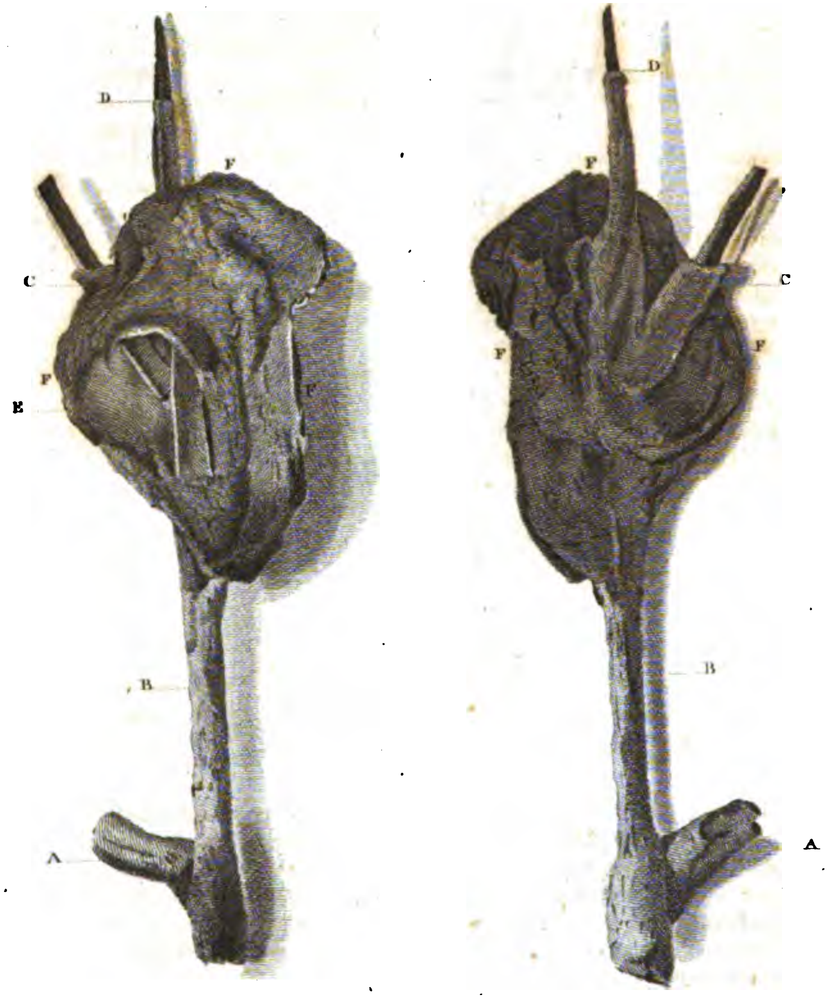
Case of Carotid Aneurism. (With an Engraving.) By Mr Thomas Duncan.

Ben, a negro, belonging to Alexander Campbell, Esq. of Guave Estate, 38 years of age, of a robust make and healthy appearance, complained, in the month of December 1809, of a pain in the right side of his neck, attended with a soft pulsating circumscribed tumour, about the size of a pigeon's egg, which disappeared and returned on the application and removal of pressure. He had observed it forming some weeks before, but knew no cause. I candidly confess, that a disease of this kind, new to me, so formidable in its nature, and alarming in its consequences, produced very uncomfortable feelings in my mind. I foresaw, that, without an operation, the continued impetus of a vast column of blood to a diseased artery so near the heart, must be fatal at no remote period; and, on the other hand, neither my library nor my friends afforded me hopes of success from any method of treatment; but arguing whether it would not be better to incur the risk of blame, and take the responsibility upon myself, rather than leave the patient to a certain fate, I ventured (after pointing out the imminent danger) to propose an operation. He, judging, I suppose, from the little comparative pain, that there was no occasion to submit to such hazard, and perhaps indulging a hope that my prognostic might be fallible, would not consent; and from a want of confidence in myself, which in this instance I am not ashamed to acknowledge, and cannot *even now* deprecate, I did not press it. Palliatives were therefore only recommended, —rest, an avoidance of every thing which might quicken the circulation or determine to the head, such as exercise, crying, coughing, sneezing, or stooping, and withal a gentle pressure on the tumour by a flannel roller. As might have been expected, the disease gradually gained ground; and although it continued soft, fluid, and compressible, in four months it got to a very alarming size. The swelling, extended from the ear to the clavicle over which it rested, became very painful and pointed at three different places. Deglutition was impeded, and his speech affected. He now desired surgical relief, which at this stage was impracticable; and the catastrophe took place on the 15th July 1810, by bursting at the most prominent apex. Although I was sent for on the appearance of blood, and reached his house in a few minutes, I found him speechless and insensible; the hæmorrhage had ceased, but the skin was cold, and the pulse at the wrist scarcely perceptible. To give him the only chance which now remained of preserving life, I run a bistoury up and down the whole length of the sac, while the syncope continued, for the purpose of securing the bleeding artery, but in vain. An immense gush of blood followed. It then poured more slowly and weakly, and with so little impetus, from the loss already sustained, that I could not discover the jets in a sac of great capacity, filled partly with clotted blood and membranous fibres, and in a few moments he breathed his last.

On dissection, I found the common carotid, arising from the subclavian, perfectly sound, until where it branches into the external and internal of that name. Here the disease existed. The sac was deep and of large extent, occupying the whole side of the neck, pushing the muscles to one side, adhering firmly to, and bounded by the integuments externally, the thyroid cartilage, os hyoides, and trachea internally, and pressing strongly against the vertebræ behind. It seemed of sufficient capacity to hold 12 or 14 ounces. But to convey a better idea of the nature of the disease, and the probability of success, had an operation been judiciously performed, I accompany this with two views, an anterior and posterior one, of the diseased artery, taken by my friend Mr Burke, with great exactness, from the dried preparation.

N° 1.

Anterior & Posterior View of Mr Duncan's case of Carotid Aneurism.



E. Mitchell, sculp.

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A shows the subclavian; B the common carotid; C the internal carotid, through which a bit of whalebone is passed; D the external carotid, with whalebone; E the ruptured part; FFF the edges of the sac, which is cut off.

Upon the occurrence of the preceding case, it will be seen that I was not aware of the operation for carotid aneurism ever having been performed. We are now indebted to the abilities, skill, and judgment of Mr Astley Cooper and Mr Abernethy, for proofs that it is not only practicable, but that it may safely be undertaken by a dexterous surgeon. It is at the same time evident, that where so little can be left to nature, the operation should be no longer deferred than is necessary to ascertain the disease. Delay admits that increase and distension which perplexes the operator, and may be fatal to the result. With Ben, at least two months before he died, there was no possibility of doing any thing. The whole side of the neck being occupied by the sac, and merely covered by a thin integument, the first incision must have inevitably cut into it; and although about this time I became acquainted with the two cases related by the first of these gentlemen, I had not courage to make the attempt, seeing no prospect of success.

II.

Case of singular Malformation of the Heart, with Remarks on deranged Circulation. By James Thomson, M. D. Edinburgh.

J. R. ætat. 40. The account this patient gave of her complaints was, that till the last summer she had enjoyed tolerably good health, when she remarked her lips and mouth to turn of a dark colour: her health was not materially altered. She remained much in the same state till three months ago. She then began to complain of her breathing, and the blueness became much more general; but it is only during the last three weeks that she has been forced to keep her bed. During the time I saw her, which was only three days before her death, she had all the appearance of a person labouring under the severest symptoms of hydrothorax. The pulse was not very much altered, rather feeble; she could only endure the half erect posture, and breathed with very great difficulty. She was ordered to be let blood, and lost nearly eight ounces. Felt no relief, and died in sixteen hours after.

Dissection.

External appearances.—Not much emaciation; blue colour more faint than during life; the chest sounded ill when struck, especially the left side; and there was a peculiar form of the thorax, very frequent in cases of diseased heart.

Thorax.—Pericardium contained six ounces of a clear fluid; the right cavities of the heart enormously distended with black blood; the right auricle thickened and enlarged in a small degree. In the seat of the foramen ovale, there was a circular aperture sufficient to admit the points of *the four fingers* to a considerable extent; the pillars of the foramen ovale were not distinct. The direction of the aperture was not such as could warrant one in saying, that it was more particularly directed from one side or another. The right ventricle was considerably enlarged and thickened; left auricle rather small; left ventricle natural, but, as usual, contracted; great quantity of blood at the commencement of the aorta; the ductus arteriosus was quite impervious. The lungs were adhering in most places, and their substance was dark-coloured, and full of blood and air; the left lobe at the inferior part contained some extravasated blood. The veins were much distended with blood, particularly those of the liver. The trachea at the bifurcation was much reddened; the stomach internally had a red spotted appearance; the inner surface of the intestines was of a very dark colour throughout.

The case which I have now detailed is interesting, both from the *unusual* appearance presented on dissection, and also from the speculations it gives rise to, as tending to illustrate some obscure parts of the circulation.

The first question that naturally suggests itself is, whether this was an original malformation, or a change of structure arising at an after period of life? If it proves to be a malformation, we must show how so singular a deviation could have existed for so long a period without inducing more serious derangement in the system of circulation.

If we view it as an alteration in structure occurring after birth, we must point out the causes and the time of its formation. After considering the subject attentively, the following circumstances have induced me to refer it to an original malformation.

1st, The appearance of the aperture, the edges of which were rounded and thickened, indicated that it was not of recent formation; as also, that it was not the foramen ovale merely remaining open; for, in that case, there should have been the two pillars as they are called, and the aperture should have been of an elliptical form, an appearance which it acquires as the child advances nearer to maturity.

2dly, At birth, and for some time after, a passage must remain in the seat of the foramen ovale, and ductus arteriosus; yet no unusual appearance takes place, unless some cause deranging the circulation occurs, and then, as we shall afterwards endeavour to show, the fœtal circulation is often again in part renewed.

The instances in which the foramen ovale remains open are so common, that few apply them to explain the cause of any symptom during life; for at all ages the aperture occurs of various sizes; and its being always unlooked for, sufficiently shows the importance we should attach to it.

3dly, Bichât injected two different kinds of fluids into the auricles at the same time, and found that they did not intermix, though the foramen ovale was open. This celebrated anatomist seems to think that it is impossible for any fluid to pass from the one auricle into the other, however large the aperture may be.

4thly, In cases where a communication is found between the ventricles, a striking analogy is observed with the one I have just related. Little derangement happens, as long as both ventricles continue to send out the same quantity of blood; but the moment this relation is lost, the dreadful effects are easily distinguished.

5thly, Cases of an opening in the septum of the auricles are extremely rare. I find one, however, mentioned by Corvisart. It is particularly detailed in Observation 44, page 279, of that elegant work. The patient was 57 years of age before he complained, and that was seemingly induced by repeated accidents. The right auricle was extremely dilated, and an opening of more than an inch in diameter was found in the septum of the auricles.

These facts may persuade most of the accuracy of the opinion which considers the aperture as an original malformation. It is certainly more consistent with our present knowledge to view it as such, than to refer it to ulceration or rupture, induced by a violent fit of coughing.

We must, however, prove how this patient enjoyed her health for so long a period, before admitting implicitly the above statement as a correct view of the subject. We shall therefore endeavour to show that part of the fœtal structure remaining in adult life, has little influence in deranging the health, unless some additional cause arises.

In examining the cases mentioned by authors who treat of diseases of the heart, we find sufficient proof to convince us, that, on dissection, many appearances of altered structure have presented themselves, which, from the state of symptoms during life, we never should have suspected. In these cases, little variation will be found to have taken place in the relative size of the cavities of the heart.

We have already noticed, that the foramen ovale is found open so frequently, that anatomists look on it as a matter of little consequence. The observation only holds true, however, where the relative size of the auricles remains the same; for the moment the right increases in size or strength, or any other derangement of the lesser circulation is added, the most distressing symptoms supervene.

The explanation seems to be this.—As long as both auricles receive and discharge the same relative quantity of blood, no mixture to any extent can take place, even although the foramen ovale be very large; but when the right becomes either smaller, or of increased strength, or the left is seized with what is called passive aneurism, a portion of blood must go through to support the equilibrium. If the tricuspid valve, or the lungs themselves, become diseased, the same changes must happen.

The above reasoning applies equally to cases where the septum of the ventricles is perforated. It seems probable, that, in our patient, the little variation that was found in the relative size of the heart was the cause of her surviving so long, and that death was produced from the adhesions of the lungs, and the increased strength of the right auricle. In the case also mentioned by Corvisart, the increased size of the right auricle, and other disease of the lesser circulation, were in all probability the causes of death.

In proof of the above mode of explanation, the following facts may be brought forward.

In many infants, a few days before death, a partial or general blueness is observed on the surface. In most of these that were examined, the foramen ovale was open. Such observations I have found to be very numerous. In the last case that was examined, the child had been troubled with convulsions for several days before death. Each of these lasted for some time; and though the breathing and pulse continued, the surface became generally livid, and retained partly that hue during the rest of the day. The foramen ovale was found very large. In all these cases, where the extinction of life is gradual, the extremities first become cold; the intellectual functions cease; and a vast accumulation of blood is always found in the lungs, which, as Bichât has proved, is owing to the capillaries of that organ retaining their activity much longer than in any other part of the body. A diminished supply of blood must therefore reach the left cavities of the heart; so that, in order to support the equilibrium, as much as is sufficient must go through the foramen ovale; and hence the blueness follows.

Another proof of the dangerous consequences that arise from the foramen ovale remaining open, is afforded by the cases of infants, where, soon after birth, some cause arises to impede the free circulation of the blood; for in that instance the fœtal state of circulation in part recommences. The following examples seem to favour this opinion.

A child a few days old, of a very weak state of body, began suddenly to labour under great difficulty of breathing, became feverish and very fretful. The body was much emaciated, with general blueness over the surface; pulse quick and feeble; breathing slow and laborious, so as nearly to suffocate the child. The death was very sudden.

Dissection showed the brain natural, but the surface loaded with black blood. The lungs of the left side were very hard, and in many places nearly white; other parts were of a much redder colour. They seemed to have received but little blood, and scarcely any air. There was considerable effusion into the thorax. The right lung was perfectly natural; the pericardium full of serum; the foramen ovale and ductus arteriosus but little diminished from the size they have at the ninth month; the heart was injected with blood.

A child born at six weeks before the full period, remained tolerably well till the second week, when repeated fainting fits came on, and the body assumed a livid appearance. The fits were very frequent each day, and scarcely was one finished when another gradually came on. They lasted from ten to sixteen minutes. During them the child ceased to respire, but the pulse continued regular, though feeble. The lips first assumed the livid appearance, and were the first parts to recover their natural state. Great relief was found from using the warm bath and fomentations when the fit was expected. They seemed to shorten the period. The child continued to have these attacks for three days, but eventually recovered, and never has had the least indication of them since, though still very feeble.

In both of these cases, the fœtal circulation was probably in part renewed; only in part, however; for the foramen ovale and ductus arteriosus are so much contracted at the ninth month, that a considerable part of the blood must pass through the lungs before birth. We might ascertain this with more accuracy by weighing the lungs of the fœtus at different periods. At birth, just before the child respires, the weight of the lungs, to the whole body, is nearly $\frac{1}{70}$; after respiration $\frac{1}{30}$ or $\frac{1}{30}$. In the earlier stages of the fœtus, it will probably be found that the difference is much greater, and we may discover that the foramen ovale becomes smaller.

Vieussens relates the case of a child that was well formed, and lived for 36 hours, and on dissection not a trace of the foramen ovale was to be found.

In cases where the child is born after a very severe labour, the fœtal state of circulation is said to continue for some time. Of this, however, I have had no opportunity of judging.

The experiments of Count Buffon, who endeavoured to make animals amphibious that were not so naturally, are too vague to be made use of in supporting the fact of the continuance of the fœtal state of circulation.

From what has been stated, we may perhaps be convinced that part of the fœtal structure may remain till adult life, without producing any very material derangement; but that the moment the relative uniformity of the lesser circulation is destroyed, the most marked symptoms arise, which speedily terminate in death. Admitting these conclusions, we easily explain the cause of our patient's enjoying good health for so long a period, which was the subject we undertook to prove.

From the circumstance of universal blueness which was observed in our patient, we may be induced to bring it forward, as several authors have done, as a symptom pathognomonic of diseased heart. This opinion is not altogether accurate; for in your Journal some years ago, I remember reading a case accurately detailed by Dr Marcet, of general blueness during life, yet nothing but strong and universal adhesion of the lungs was found on dissection. To this observation let me add two others of nearly a similar nature.

A girl 21 years of age, of a very delicate constitution, and liable to cough during the winter, happened to get wet feet during menstruation, which increased all her complaints, and in six months great difficulty of breathing. The menses ceased entirely; her hands became œdematous; and the whole surface of the body acquired a tint of blueness in one day. She could now only breathe on her back, with her head raised. Pulse 120. After using blisters for some time, the colour became much more intense, and she died very suddenly. All the symptoms indicated diseased heart; yet on dissection it was quite sound; but the lungs adhered at every point, and the veins were gorged with black blood.

The second case originated also from suppression of the menses. Universal blueness followed immediately, aggravated on using exercise; her health gradually decayed, and she died in three years. Great adhesions of the left lung, especially to the pericardium; right lung adhered also; the left auricle and ventricle seemingly enlarged, full of blood of a dark colour; the right side healthy.

Most authors have insisted on disease of the right side of the heart as a uniform cause of blueness; and the mechanical idea of the blood being driven with increased celerity through the capillaries of the lungs, has been offered as a satisfactory explanation. Blueness does certainly occur more frequently when the right side of the heart is diseased, than in other cases; but then the livid appearance does not depend on the mechanical intermixture of blood, but arises merely from the stagnation occasioned in the veins of the head and extremities; and the blue colour is of a different appearance from what it is when the disease arises from the combination of venous and arterial blood. Disease of the right side is extremely rare, and many cases are detailed as such, which, in reality, are merely original formations, depending on the fact, not generally attended to, of the two ventricles, during the fœtal state, being nearly of equal size and structure, which often continues through life without any very dangerous consequences. As to the mechanical idea of the blood being driven through the lungs with increased celerity, in cases of disease in the right side of the heart, the laws of the capillary system contradict it; for we find it impossible to inject, during life, those parts of the system that are most easily filled after death,—a clear proof of their independent action; and the great accumulation of black blood which is found in the lungs in cases of protracted disease, clearly proves, as demonstrated by Bichât, that the capillaries of that organ still retain sufficient energy to refuse its transmission to the left side of the heart, which, in these cases, is always found empty. These facts go to prove, that permanent blueness does not *always* depend on an original malformation of the heart, and that the altered colour, in cases of disease in the right side, is not produced by the mixture of arterial and venous blood. It has been proposed to call this symptom of blueness *Cyanopathia*, and there seems no objections to the term.

Before finishing these remarks, allow me to say a few words regarding the circulation of the fœtus, and more particularly of the Eustachian valve.

Sabatier imagines, that the two currents of blood issuing from the venæ cavæ, cross each other, and do not mix; the stream from the superior cava goes into the right ventricle, and that from the inferior cava passes through the foramen ovale into the left auricle; and thus a different kind of blood circulates in the head and superior extremities, from that which goes down the aorta; and by this he explains the superior development of the head and upper extremities in the fœtus. We are much surprised to find Bichât adopting this opinion in its greatest details, and giving Sabatier's figure of 8 as a correct view of the subject. Sabatier has endeavoured to establish this opinion from anatomical facts; and he assigns to the Eustachian valve the office of directing the current of blood from the vena cava inferior into the foramen ovale, and thus preventing the mixture.

The Eustachian valve, to fulfil this office, should have been placed at the posterior part of the vena cava, and of sufficient extent to cover the greater part of the diameter of the vena cava inferior, and also to have formed a sort of vault towards it, in order to make the blood of the superior cava glide over it. The posterior pillar of the foramen ovale seems quite unfit for that purpose, although Sabatier insists upon it. If we examine the auricle attentively, we shall find no structure adequate to prevent the mixture of blood.

Le Gallois says, that the Eustachian valve, as it now stands, rather favours the mixture of blood than otherwise. The *vestigium* of the Eustachian valve, why does it not disappear after birth, like other parts whose functions have been performed? The lion, the cat, * Guinea-pig, and dog, are destitute of a Eustachian valve. Another circumstance, in the right side of the heart, must favour also the mingling of the blood. There is a kind of cone formed at the mouth of the right ventricle, by the tricuspid valve, the base of which looks towards the auricle. At each contraction of the ventricle, the whole of the blood contained in the cone must be driven back into the auricle, the former being already full. It is from this fact that we explain the regularity in the circulation; for the capacity of the right ventricle having been proved in the adult to be larger than the left, if the former contracted on all the blood, the quantity discharged would be greatly in favour of the right side, and dreadful consequences would ensue; which is well exemplified in cases of disease of the right ventricle.

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* Le Gallois.

If we examine the heart of a large animal, we will see the accuracy of the above statement. It even extends so far as to give an apparent pulsation to the jugular veins, which has led some authors to adduce this symptom as pathognomonic of disease in the right cavity of the heart.

A third circumstance frequently occurs, which would defeat the object of Nature, if she had any design in preventing the mixture of the two currents of blood. This is the variety in the insertion of the ductus arteriosus into the aorta, which occasionally takes place before the carotid or axillary arteries are sent off, and at other times just opposite to them. The intermixture of blood must therefore happen, in opposition to all the care taken to prevent it, in the right auricle. These facts throw some doubt on the explanation of Sabatier, which has been so generally received. What the real function of the Eustachian valve is, seems at present to be unknown. Whether it be serviceable in removing the pressure of blood from the inferior cava, or whether it has any function at all, we leave for others to conjecture, and time to set them right.

III.

Case of the Effects of Tobacco. Communicated by MARSHALL HALL, M. D. &c.

On May 24th, 1815, Mr J. H., aged 19, unaccustomed, except for a day or two before, to the effects of tobacco, smoked one, and part of a second pipe, without employing the usual precaution of spitting out the saliva; and partook, at the same time, of a little porter. He became affected by violent syncope, and by violent retching and vomiting. He returned home, complained of pain in the head, undressed himself, and went to bed. Soon afterwards, he was taken with stupor and laborious breathing.

He was found in this state by the medical attendant. The countenance was suffused with a deep livid colour; the eyes lost their brilliancy; the conjunctivæ were injected; the right pupil was exceedingly contracted; the left was much larger than usual, and had lost its circular form: Both were unaffected on the approach of light.

The hands were joined, and in a state of rigid contraction; the arms bound over the chest; and the whole body was affected with spasmodic contraction.

The breathing was very stertorous; pulse about 80 or 82, and nearly natural in other respects. No more vomiting; no stool or urine passed; no palsy.

Fourteen ounces of blood were immediately taken from the temporal artery, and vinegar was administered. He revived evidently; the countenance became less livid; the spasmodic affection of the hands ceased; the respiration became less stertorous; the pulse was not materially affected. An ipecacuanha emetic was given, and operated once, and afterwards some purgative medicine was administered.

He dosed through the night.

On the morning of the 25th, the patient was affected with syncope, during the efforts made to get out of bed and go to stool. At the visit, he complained very much of pain of the head and eyes; the eyes and eyelids appeared red, and suffused. Pulse 80, and natural. Tongue loaded and brownish; one stool. Continued to dose. The feet were cold in the morning. Sixteen ounces of blood were taken from the arm.

On the third day he still dosed; complained of pain of the head, of nausea, and of tendency to fainting. Countenance more natural; the pupils natural, and contract by light. Pulse 72. A loose stool passed insensibly in bed.

In the evening of this day, the patient again became affected with a degree of stupor, spasms of the hands, and stertor in breathing. The countenance was not livid; ℥vj. of blood were drawn from the temporal artery; vinegar was given; a blister was applied to the forehead, and mustard cataplasms to the feet, with much relief to the symptoms.

On the 27th, or fourth day, the patient appeared much as on the preceding morning. There was some pain of the head. No sickness or vomiting; one scanty loose stool. Dosing continued. Tongue dry and parched.

May 31.—Since the last report, he has gradually recovered; the headach, pain of the eyes, and drowsiness ceasing; a little obstinacy of the bowels; some appetite; tongue, &c. becoming natural.

The patient is at present (August) perfectly recovered.

This case seemed, on its first aspect, to wear the form of apoplexy, its cause being unknown. The appearance of the countenance, the state of insensibility, the stertor in breathing, are the same in both affections: But the absence of paralysis; the spasmodic affection being generally observed on both sides of the body; the natural state of the pulse; the manner of the attack; the succession of the symptoms of syncope, nausea, and vomiting, and affection of the head, all concurred in distinguishing this affection from any kind of apoplexy.

Indeed, the symptoms of the case were sufficiently peculiar: Syncope, succeeded by nausea and vomiting, and subsequently by violent pain and affection of the head; coma, and stertorous breathing, without paralysis, and with little affection of the pulse; the tendency to dosing, and to syncope on a change of posture, or on any exertion; the languor of the circulation observed in the extremities; all these circumstances, taken together, seem to characterize decidedly the effects of tobacco, and to distinguish them from any other affection. It may be useful, however, on similar occasions, to recall to mind, that apoplexy, an injury of the head, a fit of epilepsy, a state of deep intoxication, the effects of other narcotics, asphyxia, syncope, &c. are all affections which, with the one recorded in this case, require to be accurately distinguished from each other.

The treatment employed by the surgeon in this case seems to have been very efficacious. Perhaps the opening of the jugular vein would have been equally so, as the lividity seemed to indicate a redundancy of venous blood. But in spasmodic affections, the temporal artery is more accessible, and more promptly, and more conveniently opened. The particular treatment here mentioned was followed in the later periods of the complaint, by such remedies as the symptoms seemed to require, and especially by repeated doses of calomel.

Nottingham, 20th August 1815.

IV.

Observations on the Plague at Malta. By WILLIAM STAFFORD, Surgeon, 1st, late the 3d, Garrison Battalion.

SIR B. Faulkner's excellent Observations on Plague having but very lately come to my hands, and, at the same time, Dr Chisholm's Remarks on Contagious Fever, where my practice is alluded to, I feel myself, in some degree, called on to state, by a few cases, what that practice was, my reasons for adopting it, and the effect I expected to be produced. To enable me to do this, it will be necessary to recur to the first appearance of the disease, and the situation of the battalion under my care.

Early in May 1813, the chief medical officers of regiments were ordered by the Inspector of Hospitals to attend him, when he informed us, that he had that morning inspected the dead body of a woman who had died of plague; that the whole city and country were in a state of the greatest alarm. How far the infection had spread could not be known. He recommended to us to be strictly on our guard; to make frequent inspections, as it was very probable, from the incautious life of a soldier, some one might receive the infection, and communicate it to the rest of the garrison. He immediately ordered us to assemble as a Medical Board, and appointed Sir B. Faulkner to preside. When we met, to our mutual astonishment and distress, we discovered that none of us had ever seen the plague. All of us had read many authors on the subject, and all that we could learn was, that the disease was generally fatal, under every mode of treatment heretofore practised. A part of our instructions was, to draw up a few medical rules for the guidance of the Maltese. From the state of our knowledge of the disease, we could have but little to recommend, and this was chiefly to keep the bowels open by mild laxatives; to drink plenty of lemonade; and, in case of any attack of fever, to take a little spt. minder. frequently; a medicine they knew, and always took in cases of slight fever. The rest of our recommendations related to strict attention to cleanliness, frugality in diet, and temperance in conjugal pleasures. Though this last caution may cause a smile at present, it will, on reflection, and after reading what follows, perhaps be treated with respect.

My battalion was quartered at Floriana, a fortified outwork to the city of Valletta. The works are somewhat in the form of a half-moon, and are between two and three miles round. I imagine, at the commencement of the disease, it contained about 6000 souls, of which about 1600 died. Whole streets were depopulated, and very few houses escaped. Under my quarters, three separate families lived, and had no communication with each other, and some died out of each. Floriana is the only outlet from Valletta to the country. All the people that died in the city, all the sick sent into quarantine or observation, infected clothes, &c.—the dead-carts sometimes so full, that the covers could not be shut down, and, from the pressure of the bodies on each other, the carts might be traced by the quantity of pest-matter running from them:—all the pest-hospitals for the Maltese, places of quarantine and observation, were in the ditches of Floriana, under the eyes of our sentries, who frequently, at day-break, saw heaps lying on each other dead; and, during the whole of the day, numbers under the severe and last agonies of the disease.

I have been thus particular in describing the situation of Floriana, where ours was the only regiment to do every part of the military duty, by guarding all these extensive works. The officers and men had of course to traverse the town in every direction. I likewise wish to show how next to impossible it was that we could escape, as some severe observations have been made for our suffering it to appear among us. All the regiments quartered in Valletta were lodged in palaces. The door being locked, they might be supposed to be secure; yet some of them suffered, and one of them received the infection first. This being the case, it was necessary for me to form some plan to meet it. We, however, escaped from early in May to the 14th of June, during which time I had frequent opportunities of inquiry. I found the practice of the Maltese medical gentlemen was by no means fortunate. I was informed that the first 60 patients were bled, and that 59 died, from which it was evident I had nothing to expect from the lancet. I am sorry I have so few cases to record, which I attended myself through all the stages. On the disease first appearing in De Rolles, quartered in Valletta, a pest-hospital was formed in Floriana for the military; and when a case of mine was identified as being plague, the patient was sent to this hospital, from which I am sorry to observe very few returned.

The symptoms of this disease have been so ably and fully described by Sir B. Faulkner, that it is unnecessary for me to repeat them. They cannot be stated by any one with more precision or elegance. I am sorry I could not often communicate with him at the time. We were in complete quarantine with regard to each other.

CASE I.

14th June 1813.—JERRY WISEMAN, aged 32, spare habit of body, complains of headach, pain across the lumbar region; has had slight rigours; eyes clear but dull, as though under the indirect influence of liquor; tongue a pale chalky white, with a brown streak in the centre; a tumour in the inferior gland of the groin, about the size of a walnut, with but little pain; bowels regular.

℞ Calom. pptt. gr. x.
Jalap. gr. xv.
Cons. q. s. ft. bol. to be taken directly.

And to rub in ʒij ungt. hydr. along the course of the absorbents.

15th.—The bolus gave him several stools; the bubo, and the other symptoms, the same as yesterday. The ointment was again rubbed in, and the bolus repeated this day.

16th.—Eyes less dull; tongue clean and moist, with less of the chalky appearance; has had plentiful evacuations by stool; tumour stationary. To continue the ointment.

℞ Calom. gr. iij.
Pulv. Jacob. gr. v.
Cons. q. s. ft. bol. cap. h. s.

17th.—Tumour seems less; tongue has lost the brown streak; he seems more cheerful; had a gentle moisture on the skin during the night, and slept well. The bolus and the ungt. hydr. to be repeated.

18th.—Tumour less, mouth sore, tongue nearly the natural appearance. The ointment was omitted, but the bolus continued several days longer. The mouth was kept tender with calom. gr. i. night and morning, until the 28th. He was discharged to his duty on the 2d July. He has continued in perfect health ever since.

Case II.

10th July 1813.—Robert Clark, aged about 24, spare habit, lively disposition. Had never been in the hospital in my recollection. Had mounted guard this morning, after a minute naked inspection, when not a suspicious spot was to be seen on his body or extremities. His feet and hands had been carefully washed. About noon, I was sent for to visit him, he having been taken suddenly lame while on sentry. On examining him, I found a small pimple in appearance between the large and the next toe of the right foot. The pain he declared to be excessive, and likened it to a burning coal. While inspecting it, I could discover rising from it a red streak, which speedily ascended up the inside of the leg, and very soon after a swelling took place in the inferior inguinal gland. He was immediately sent to the hospital. The foot was well washed in warm water, a cataplasm applied to it, and the whole of the inside of the leg was rubbed with ungt. hydr. without any regard to quantity, as long as he had strength to rub it in, and calom. and jalap. each gr. x. given him at the same time. On seeing him in the evening, the pain from the pimple was less, but still severe, with considerable pain in the groin. He had several stools. He seemed to have some fever, and apparent giddiness in the head, but did not complain of pain in it.

On visiting him in the morning, I found the pimple had now the appearance of a small ill-conditioned ulcer. It was again cleansed, and the cataplasm applied. On washing away the ointment to look at the absorbent, I found it considerably enlarged; and, arming my finger with a little of the ungt. hydr. I traced it from the sore to the bubo. It no longer appeared charged with a red fluid, but had a yellowish look. The tumour was, at this time, the size of a pigeon's egg. The ointment was again used in the same way, and the bolus repeated. This method was continued until the mouth became very sore. The ulcer soon healed, and the bubo gradually disappeared. He went to his duty on the 25th of August, and has continued well. His description of the first attack was, that he was standing sentry on the top of the arch, through which was the only passage into the country; that a pest-cart had that instant passed through, heavily laden with dead bodies, from which proceeded a horrid smell; that the attack was instantaneous, as though he had been shot. I was instantly sent for, and was with him in three minutes, my quarters being near his post. My opinion was, that, from some defect in his shoe, some pest-dust had got in, and was the true cause of his complaint. He mounted guard at seven o'clock in the morning, and had to march half a mile from the barracks to his post.

I have often read, and been otherwise informed, that when the pest-tumour could be brought to suppurate, the result was frequently favourable. I had determined, if I found a tumour of this description that would not submit to the mercurial inunction, with the calomel purges, &c. to throw in the bark and wine largely.

CASE III.

Oct. 17th.—ALBERT ROSTOSKI, a Pole, aged 35, spare habit of body, dark complexion, was this day placed in observation, complaining of slight pain in the head and back; tongue clean and moist, but much of the chalky appearance; eyes heavy, but clear; bowels regular; spirits much depressed; a small tumour in the lower gland of the left thigh. He was immediately ordered the Cal. c. jalap. and

℞ Cal. gr. iii.
Pulv. ant. gr. v. to be taken at bed-time; and to rub ʒi. ungt. hydr. along the course of the absorbents.

18th.—Seems to have more fever; headach worse; more vivacity in the eyes; has had several stools; had no moisture on the skin; has more thirst; tongue much whiter. A blister was applied between the shoulders; the saline mixture given him frequently; the bolus and ungt. repeated in the evening; and an emollient cataplasm to the bubo.

19th.—The bubo a little larger; slept a little in the night;

had some moisture on the surface; the blister rose well; seems to have less pain; tongue the same as yesterday. Ordered all the medicines to be continued.

20th.—Symptoms all nearly the same as yesterday; bubo stationary, with a little more pain; has had no stools the last 24 hours; mouth not in the least sore. The bolus Cal. c. jalap. was given instantly; and the bolus Cal. c. pulv. ant. and the ointment, to be repeated in the evening.

21st.—Nearly the same in every particular; bubo stationary, with considerable pain; has not had sufficient stools from the bolus. Ordered him Nat. vitr. ℥i. On visiting him in the afternoon, found him considerably worse; great giddiness in the head, and apparent paralysis of every limb, but perfectly sensible, and answered correctly to all my questions. In attempting to go to the close-stool, which was within two yards of him, he had fallen several times, had cut his head, and bruised his arms and shoulders very severely. Dr Calvert (to whose recollection of this case I beg leave to refer) saw him in this state. I asked his opinion as to giving him bark and wine, as I had long made up my mind to try it in such a case. He said, he 'looked on the man as lost;' but desired me to try any thing I pleased to save him. I instantly ordered ʒi. pulv. cinchon. to be taken every hour, and a pint best white wine to be taken during the evening, and Calom. gr. iii. Pulv. Jacob. gr. v. Opii pur. gr. iss. to be taken at bed-time. Dr Calvert ordered that he should be moved to the pest-hospital in the morning, if alive.

22d.—Infinitely better; slept well during the night, with a gentle and general moisture on the skin; the bubo less painful, and larger; has completely lost his vertigo, and apparent paralysis. When the sick-cart came for him in the morning, he insisted that the men that came with it should not touch him; nor would he go into the cart, but declared he was able to walk, which he did up a very steep and rough hill, and down again, upwards of half a mile, to the boat, which conveyed him to the pest-hospital. I feel that, for the man and myself, it was very fortunate that Mr Cloak, a young man of great ability, and then first assistant-surgeon to this battalion, was on duty at the hospital at that time. He knew my ideas of the disease, and my mode of treating this case. He was so kind as to continue the same plan. In a few days the bubo suppurated; he opened it, the man perfectly recovered, and has been in good health ever since.

It will probably be alleged against me, that I did not use the remedy in the last case with my usual boldness. My answer is, I was under critical inspection.

It is the duty of every practitioner, in writing on such a disease, to record his failures as well as his successes; and, if he has been guilty of inattention, to record that likewise, as a beacon to himself and others.

Case IV.

July 22d.—John Evans, aged about 30; spare habit of body, much addicted to liquor, always dirty and slovenly, for which reasons he was made a pioneer, to clean the barracks, carry burdens, go messages, &c. He was employed on this day to carry something to Boschetta, a distance of seven miles; he returned in the evening very drunk, with two black eyes, and several bruises about the arms and shoulders. I found him in this state the next morning, sleeping among his comrades of the same description. I immediately placed him in observation, gave him ℥i. nat. vitriol., and inspected him morning and evening naked. Found no suspicious marks on the trunk or lower extremities. I gave him no other medicine.

25th.—On this day, the steward of the hospital came to inform me, that this man had a total suppression of urine; that on his trying to pass it, on his hands and knees, he (the steward) saw, on the lumbar region, a tumour, small at first, but rapidly increasing in size as he was looking at it. I lost no time (the distance was half a mile) in going to him, and found him dead. The tumour appeared to me to be a carbuncle of the most malignant kind. I ought to have supposed that extreme debility would come on from the fatigue of his long journey under a summer sun. I ought to have known the debility that comes on after excessive drinking, perhaps spirituous liquors. I ought to have supposed he had been in contact with some pest person, it having, at this time, spread to every part of the island. In fact, I should not have waited to treat the disease, after it appeared in such a habit as his, there being not strength sufficient in the system to resist it one hour.

Case V.

Oct. 20th.—Edward Traynor, aged about 27, stout, well made; had never been sick in my remembrance; was placed in observation this day. I was informed that he had slept on the battery, exposed to the night dews, two nights, with a common woman. He complains of severe headach, thirst, nausea, pain in the back; tongue whitish, and dry. This was not supposed to be a case of plague, as the imprudence of his conduct was sufficient to account for all the symptoms. I ordered him immediately into a warm bath, and to take an emetic while in it; a blister between his shoulders, and Pulv. antim. gr. vi. Opii gr. i. to be taken at bed-time; mist. salin. very frequently; the bolus Cal. c. jalap. in the morning.

21st, Sunrise.—Considerably worse; considerable wildness in the eyes, and slight inflammation, vertigo, and slight delirium; tongue much whiter. Saw him again twelve o'clock. The bolus had not operated to my satisfaction. Gave him ℥i. natron. vitr.; saw him again in the evening, and found a tumour in the usual place in the groin. The bolus was repeated in the evening, and ʒii. ungt. hydr. rubbed as usual. The next morning he was much worse. Sent him to the pest-hospital; he died in the evening.

22d.—The woman was sent into quarantine, but never betrayed the smallest symptom of the complaint.

I was informed that a man-servant of Captain Chilcott, R. N. passed a night in a house of ill fame. In a very short time after, a bubo appeared in the inferior gland of the groin, which, on inspection, was found to be plague. He was sent to the hospital, and died very soon after. I understand that this man did the usual duty of the house, and actually nursed one of the children a short time before he was sent to the hospital. The inspector of hospitals informed me, that a young lady in his neighbourhood married during the plague, and died soon after, and no other of the family. Some time early in October, a serjeant of the 15th regiment, who acted as blacksmith to the officers of the garrison, had his forge in Floriana, and had one of our men to assist him. The serjeant being a very useful man, and excused all other duty, was allowed to live as he pleased, and to go when and where he pleased. He was very fond of liquor and women. It is known he frequently went into Valletta, on pretences of business, and probably went into improper houses. He applied to a surgeon for relief for a tumour in the groin. It was examined, and supposed to be venereal, and intended to be treated as such, the man having no other apparent complaint at the time. On his being visited next morning, his case was found to be plague. He died the same evening. When inspected in the morning, the man belonging to our battalion was sleeping in the same bed with him. On examining the dead body, it was found to be a case of the most malignant kind, with large broad livid spots, and numberless petechiæ all over the trunk and thighs. As there was no doubt that our man had been in close contact with him, as they had constantly slept together, handled the same working tools, eating and drinking together, on placing him in observation, I was determined not to wait for the appearance of the symptoms, but try if I could prevent it. He was several times purged with calomel, and took small doses night and morning, until his mouth was sore, which happened soon. The same was continued. His mouth kept tender during the whole of his quarantine, 41 days. He had no complaint during the time, except once or twice a slight headach, which was always removed by a calomel purge. He had a generous diet all the time, and generally a pint of wine a day.

During the time the battalion was infected with plague, we had between 30 and 40 cases of tumour in axilla, attended with slight fever. They were all treated in the same manner, the calomel purges were given, and the ungt. hydr. rubbed in the course of the absorbents. They all did well; some suppurated, and some were absorbed. These cases were not supposed to be plague, as none died.

In detailing these cases, my intention was merely to relate facts, my mode of treatment, and the results; avoiding all theory or reasonings about it; knowing, that if you deem this paper of sufficient importance to merit a place in your valuable Journal, it will call the attention of men of the first abilities, who will do the subject more justice than I can. I am near sixty, and it is long since I was at school. This regiment was twice infected with plague; and though it appeared in every company in it, you will be surprised to hear, that we lost on the whole only eleven men. It is not my intention to claim any merit on this account. That is entirely due to the commanding officer Major C. Bayley, to whose almost sleepless zeal and attention for nine months it is owing that our loss was so small: To his wise regulations, and constant superintendence, the safety of a great part of the battalion must be owing.

It will be expected that I say something on the use of oil as a preventive. I am clearly of opinion it was very useful, after the men had used it some time; suspicious cases less frequently occurred; and, although we were several months in strict quarantine, the men sleeping on the bare boards, with only a blanket to cover them, and this during the winter months, we had not a single case of rheumatism, very few cases of simple fevers, dysenteries less frequent, and easier managed. Though the men did the same duty in quarantine they did before, their general health seemed much improved, many of them got into flesh, and the battalion has been much healthier than I ever knew it before. It must be left to future experiments to ascertain whether this plan of treating plague will lessen the number of deaths or not. For myself, I should feel less hesitation in meeting it in a British garrison now than I had.

Malta, *26th June* 1815.

V.

Case of Fracture of the Skull, in which a Quantity of Brain was lost, and a real Hernia Cerebri successfully treated by Pressure; and an Account of the good Effects of a Tincture of Bay-leaves to Wounds, Ulcers, Burns, &c. and of Charcoal internally in Dysentery. By C. K. Crawford, Surgeon, R. N.

On the 25th June 1813, being on a visit to my relations in the north of Ireland, I was called, in conjunction with Mr Thomas Miller, a navy surgeon, then practising in Newton-Stewart, to visit James Hamilton, a fine boy, betwixt two and three years of age, who had the preceding evening, while at play in the fields with other children, received an injury of the head. He complained on his return home of pain; but there not being an external wound bigger than might be inflicted by the point of a pin, little notice was taken of it at the time.

During the night he was very restless, with heat of skin and other symptoms of fever. He complained so much of the pain in his head, that his father's attention, with whom he slept, was towards morning directed to the place of which he complained, where there was an evident depression of the cranium, and the pulsation of the brain very susceptible.

Though, when we saw him, there were no conspicuous symptoms of compression, and, notwithstanding the generally received rule, not to interfere with fractures of the cranium, unless such symptoms do actually occur, we did not hesitate in making the necessary incisions for examining the state of the skull.

The skalp was divided in the shape of the letter T. The first incision horizontally forwards, near, and in the direction of the superior margin of the fracture. The other, from that at right angles, down the middle of the depression. On exposing the cranium, we found the left parietal bone fractured, and depressed rather behind, and above the attachment of the temporal muscle. More than two inches in length, and one in breadth, was entirely broken from the surrounding bone, comminuted and sunk near an inch into the brain, at the posterior angle of the fracture. From this a fissure extended down through the temporal bone towards the back of the ear, part of the bone being likewise depressed. The cavity formed by the deepest part of the fracture, was filled with protruded brain, the vessels of which caused the pulsation observable before the removal of the hair. About the bulk of a walnut of brain, consisting both of the cortical and medullary substance, was lost.

Finding we could not elevate or remove the broken bone without a saw, the trephine was applied at the anterior part of the fracture, where the detached portion was the least sunk into the brain. Besides that, in the crown of the trephine, all the separated bone was removed, the depressed portion elevated as near to its proper level as practicable, and the ragged edges of the surrounding bone taken away, the scalp was brought together, and a stitch put in at the angular points of the wound. Not having adhesive straps at hand, the other parts of the incisions were only kept together by compresses of lint at each side, a pledget of digestive ointment, and a tar compress. The double-headed roller was applied moderately tight; a handkerchief and night-cap over all. After the operation, the boy was more lively, and did not lament the pain in his head so much.

The dressings were not removed until the morning of the second day, at which time he seemed duller than usual. This his father afterwards accounted for, by his being disturbed and kept from his sleep for some time in the night. The discharge had made its way through the night-cap; the wound looked very well, and had adhered where the stitch was applied; the other parts were not in contact.

The stitch was cut, and the whole brought together by adhesive straps. The other dressings were applied as at first, except that the bandage was not put on with such firmness, as it was thought his dulness that ensuing night had proceeded from undue pressure on the brain.

The wound was dressed, daily, much after the same manner. About the third or fourth dressing, the brain was observed to protrude from the opening in the *dura mater*, which was large enough to admit the point of my middle-finger. When the protrusion rose above the scalp, it put on the appearance of fungous granulations from a wound; it enlarged very rapidly for more than a week, and a discharge of a sanious matter kept pace with it in increase.

The only means hitherto tried to keep it down, were drawing the edges of the wound as near as possible, without too much force, by adhesive straps brought over the protrusion, a compress of doubled lint, a pledget of ointment, and a toe compress, with the bandage applied somewhat tighter than at the second dressing.

Notwithstanding this, its bulk was every day augmenting, and the discharge from the wound increasing in quantity, and getting of a worse quality. From the sloughy appearance it at one time put on, and the smallness of its base, it was for some time expected to have fallen off; but its surface above the scalp now putting on a healthy appearance, with granulations, discharging good pus, showed our hopes in this respect to be fallacious.

It was at this time as large as a pullet's egg, and had separated the adhesion formed at the angle of the incisions. The boy's health was good, the feverish symptoms having entirely disappeared, though reduced in flesh by the discharge, &c. The tumour, from its appearance and pulsation, was considered to be a protrusion of the brain.

In this state of the case, though contrary to the directions given by every author on *Hernia Cerebri*, to which we could then refer, it was determined to try firm but gentle pressure, in order gradually to reduce the protruded brain within the bounds of the cranium, watching with due circumspection its effects, to obviate any symptom of compression that might intervene.

This was done by putting larger straps over the tumour, and bringing the lower edges of the scalp as near together as we possibly could. Over the straps was put a fourfold compress of thick lint; the other dressings as before; and the bandage applied with a degree of tightness sufficient to answer our intention. Orders were left to make us immediately acquainted with any extraordinary symptom that might occur.

He passed a very good day, and rested well in the night. Next morning, on removing the dressings, the good effect of the pressure was very evident. It was therefore continued in much the same manner. In a few days the tumour was much diminished, and an adhesion formed betwixt the dura mater and side of the protrusion. As this was perfected, and the communication with the interior of the cranium shut, the discharge decreased and became of a better quality. The incisions healed soon; and, by continuing the pressure, the tumour receded very fast, its surface still discharging good pus.

By the time the skinning process came to this part of the wound, it had just come to the level of the scalp, and was consequently the last place covered with skin, leaving the pulsation of the arteries as remarkable as when the fracture was first examined.

About an inch of bone, entirely deprived of its pericranium, appeared at the time when the discharge and the protrusion were greatest, which was afterwards covered by the scalp without any exfoliation.

The only internal medicines found necessary were a cathartic and saline mixtures, at the time of the accident, and afterwards aperients. Throughout the cure, although weak, his health may be called good. I saw him last in the middle of November 1813. He was then lusty, and growing tall. The pulsation of the brain could be plainly seen. The vacancy in the bone seemed filled up. He is a very clever, healthy, apt child, and not in the least injured by the accident.

In the above case, had the lips of the incision been at first kept in contact by straps, or the suture duly assisted by compress and bandages, that support given by dressings, which was removed by the breach in the cranium and meninges of the brain, and which naturally confine within due bounds the expansive force of its arteries, is it not likely that the wound, partly healing by the first intention, no such untoward circumstance as hernia cerebri would have occurred?

Would it not from this case appear, that the proper method of treating a *real* hernia cerebri, when the patient's health and every thing else are favourable, is by using that degree of pressure necessary to reduce the exuberant brain into its natural situation in the cavity of the cranium?

I shall now mention two remedies, which, though well known to the medical gentlemen in the army and navy in the West Indies, yet not being published in any work I at present know, it may be of some use to communicate to others.

The first is the application of spirit of wine, camphorated spirits, rum, or bay rum, that is, rum impregnated with bay leaves (*Laurus nobilis*) either pure or diluted, as stimulants to ulcers, wounds, burns, &c.

I saw these applications for the first time in the hands of the late Mr Murphy, surgeon of the naval-hospital at Jamaica, in 1809. He, I believe, learned the practice from Dr Macarthur, then surgeon of the Barbadoes hospital.

The ulcers to which they are serviceable are, the irritable bleeding ulcer, where the strap of Mr Baynton is not applicable. Indeed, I find the strap not so serviceable in the West Indies as in a colder climate. I have mostly found the spirit of wine, pure or diluted, the best application. Some ulcers require so strong a stimulus as camphorated spirits; while other practitioners prefer the bay rum, which is a sovereign remedy for headach, and various complaints among the natives of Barbadoes. Even rum, or rum diluted with water, is very good, when the others are not at hand.

To the sloughing, contagious, and phagedænic ulcers, they are the best remedies I know, beginning with the strongest, and diluting them, or substituting one for the other as the ulcer heals, or, by becoming accustomed to the stimulus, may require a change.

I would recommend the surgeon, in dressing ulcers, wounds, &c. always to keep a scalpel in his hand, which he will find the most serviceable thing in cleaning the edges of the healing ulcer from the layers of coagulable lymph that is constantly thrown out by the young skin, to which ulcers treated by these stimulants are particularly liable, and which, by accumulation, is very often the cause of the callous edges seen in ulcers in other respects healthy. There is nothing so convenient in taking off the hairs, remains of discharge, &c. that cannot be well removed by washing without much pain to the patient.

This method, by which the ulcer is kept remarkably clean, besides being creditable to the surgeon, who too often thinks the cleaning of an ulcer beneath his notice, is of greater use, perhaps, in the healing of some kinds of ulcers, than the application of any particular dressing.

I need hardly mention, that the manner of making these applications is by using the spirits as a lotion, or applying lint wet in it either once or twice a day, with the usual bandages; taking care, especially if the discharge be scanty, to keep the bandage moist with water, particularly near the time of dressing, in order to render the removal easy.

I have frequently, where the spirits caused very great pain, applied the lint wet in water, and poured the spirits over it afterwards.

In wounds, the spirituous applications correct the fetor of the discharge,—a great desideratum in a warm climate; diminish its quantity, and in an extraordinary manner facilitate the process of skinning.

In burns, they are only a continuation of Mr Kentish's stimulating plan of treatment. In accordance with his directions, the stimulus must at first be gradually diminished, or entirely left off, for some time, if the burnt surface be very extensive, as it is apt to augment the fever, and, by over-stimulation, may produce more watchfulness, and even the delirium attending very severe cases be thereby exasperated.

In slight cases, this is not necessary; only the spirits must be diluted when there is much inflammation. But when fever, &c. are not present, or have subsided, and the discharge is profuse and offensive, the spirituous lotion, either pure or diluted, applied with the usual dressings, has the greatest possible effect.

I have found, in the West Indies, the application of calamine cerate, partly, I imagine, on account of its rancidity, irritate the surface, produce a great deal of pain, augment the discharge, and make it of a worse quality. I therefore mostly prefer, as a dressing, the ung. ceræ.

The second remedy is the use of charcoal internally in dysentery, diarrhœa, the debilitated state of the first passages, generally left by the endemic fever of this climate, and other complaints of the stomach and bowels.

This may, like all new remedies, be spoken of at first more highly than it really deserves. At present, in the estimation of those practitioners who have had an extensive opportunity of giving it a trial, it ranks higher in these complaints than any other medicine whatever. Some of them, I hope, will shortly give their experience of its efficacy to the world, as it is a pity it should long be confined to any particular part of the world, or class of men, when likely to be so very beneficial to the whole.

In conversation lately with Dr Jackson, Inspector of Hospitals at Barbadoes, he related a very striking instance of its utility in dysentery. A soldier, who had a severe attack, after taking a dose of not perhaps more than half a drachm, felt himself quite relieved in a short time, and was conscious it was the effect of the medicine.

His griping, tormina, tenesmus, and purging, which had just before been excruciating, were entirely gone, and, as he expressed himself, he was as it were in heaven. By continuing the medicine two or three times a day, for a few days, he had no return of the complaint.

Perhaps the *rationale* of the action of charcoal in these complaints may have some similarity to that of its chemical relative, carbonic acid gas, when taken into the stomach in sufficient quantities, in allaying sickness and vomiting, and acting as a sudorific and tonic.

His Majesty's Ship Pique, West Indies, December 1814.

VI.

Case of very extensive Wound of the Abdomen, with complete Division of the Ileum, and Penetration of the Cavity of the Thorax. By Thomas Calton, Surgeon, Collingham.

Wednesday, August 23d, 1815.—I was this day called upon to visit a son of William Cooper, miller, of South Clifton, at a village about six or seven miles from hence, who had, as I was informed by the messenger, his belly ripped open by a boar, and the bowels protruded through the wound. Having provided myself with proper requisites for such an accident, I proceeded to his father's residence, and arrived there about two hours after it had taken place.

Henry Cooper, æt. seven years, the subject of this injury, about four o'clock this afternoon was at Newton, with his father and brother Edward, with flour, at a Mr Wilimot's. Mrs Wilimot gave the child two apricots, which he was eating in the yard, when he was attacked by the boar, in the presence of the above-named persons, who saw the transaction. The boy was immediately placed in a cart and taken home, a distance of three miles.

I found him lying on his back in his clothes. These I now caused to be removed, when the horrible sight of nearly the whole of the abdominal viscera, the stomach, much of the intestinal canal, the mesentery and omentum, came into view, all protruding through an extensive wound on the left side of the abdomen.

My first care was to examine the protruded viscera, when I found the ileum *completely divided*, the tear extending at least an inch into the mesentery. I brought the divided edges of the intestine together by four sutures. I then returned the stomach and bowels; but, owing to the great length of the wound, the latter could not be retained in their place. I therefore contracted the space, by applying four or five sutures at the upper or umbilical part of the wound, when the intestines were easily retained in the abdominal cavity. Nine sutures, in the whole, were made use of, and further secured by adhesive straps.

My attention was next called to a laceration on the left side of the chest, five inches in length, passing across the fifth and sixth ribs. A communication with the cavity of the chest, for the space of two inches or more, had been made by the tusk of the animal penetrating below the sixth rib, commencing at its cartilage, passing obliquely backwards across it, and under the fifth rib; leaving a space between the fractured portion of rib wide enough to admit the introduction of the finger. A portion of the under side of the fifth rib was also carried away. The integuments, not being lacerated exactly in the same direction with the fractured rib, formed a flap which, in a great measure, closed the opening to the chest; but, on lifting up this flap, air rushed out of the wound with some force. I passed my finger between the fractured portions, and satisfied myself there were no detached portions of bone to be removed. I united the centre of this flap with one suture, and the remainder by adhesive straps. A compress of linen was applied over the abdominal wound, and the whole further secured by a broad bandage that went once only round the body. He was then placed on his back on clean linen, in the middle of the room, in a small cot. He went through the operation with wonderful fortitude, nor would he allow his eyes to be covered. He smiled when I had finished, and said I had not hurt him much.

During the operation, I had to wash the blood from the bowels with warm water, as well as some fluid and feculent and gritty matter that had escaped from the intestines. The stomach and bowels were handled in the most delicate manner possible. The stomach was much distended. On returning it, he complained of some little pain and sickness, and retched once or twice. Soon afterwards he expressed a desire to have some cold water, which was given him. The bowels were particularly empty, which I considered as a very fortunate circumstance. On inquiry, I found he had taken his usual breakfast of tea, with bread and butter; that, at this meal, he always ate very sparingly; that he had been from home the whole morning, and had no dinner; that, at Newton, he had eaten a small portion of bread and ham, and the two apricots above-mentioned, the stones of which he had swallowed. The omentum was lacerated from the stomach downwards, its whole length. The vessels of the mesentery were beautifully injected with blood, and the circulation very evident. The wound in the parietes of the abdomen commenced about an inch below the anterior inferior spinous process of the os ileum of the left side, and extended six and a half inches in length, in an oblique direction, above and beyond the umbilicus, to the right side of the scrobiculus cordis. The pulse was not much affected. He was allowed cold water for his drink, with directions not to give him more than a tablespoonful at a time; to be kept cool and quiet; and to take the saline mixture. I left him soon after seven o'clock in the evening, in better spirits than could be expected. I did not think sufficient reaction had taken place to allow me to bleed him.

Thursday, August 24th, nine o'clock A. M.—It was reported to me that he had slept but twice, and for not more than half an hour each time, the whole night; that he had frequent startings. He did not appear to have much fever until about two hours ago; his pulse is now full and quick; skin hot and dry; breathing short and laborious; tongue and lips dry and parched; belly much swollen; he has passed his urine freely. I bled him to the amount of about four ounces; the extremities and face were washed in cold vinegar and water; the bandage removed, and the abdomen fomented; an enema of four ounces of water-gruel was injected. From these means he experienced some relief.

The glyster and fomentations were ordered to be repeated every four or five hours; the bandage to be removed each time the abdomen was fomented; the body to be washed in cold vinegar and water as often as the skin became hot. I saw him again about eight o'clock P. M. I found his pulse full, cordy, and much quicker; respiration more difficult; thirst considerable, and complaining of a fulness at the stomach; in every respect much worse. The blood drawn in the morning was slightly buffy in the centre. He had just awoke from sleep when I first entered the room, and did not answer me in that coherent manner he had previously done; but after half an hour, this gradually subsided. The nurse has given him two more gruel glysters, the whole of which he has retained; he has taken no food; his drink has been water, and a little of the saline mixture; urine has been passed in full quantity. About five ounces more blood was now taken from the arm, which had a strong size upon it, and was cupped. The pulse immediately became easily compressible, but not the least faintness followed. Another glyster was given him as before; the fomentation renewed; his face and extremities were well washed in cold water, which reduced the heat of skin. About ten o'clock, I ordered him three grains of calomel made into a pill with aromatic confection, and a spoonful of a solution of Epsom salts every three hours.

Friday, August 25th, ten o'clock A. M.—I was informed by the nurse, that he had slept from the time I left him (ten o'clock last evening) to two o'clock this morning; that his sleep had been occasionally disturbed by startings. Soon after he awoke he drank some cold water, which he immediately (and for the first time) vomited, bringing up along with it a considerable quantity of fluid of a greenish colour, and somewhat offensive, and one of the apricot stones; a second vomiting took place in half an hour after, when the other stone, with three lumbrici, were ejected; since then his vomiting has been frequent; almost every thing he drinks immediately returns. The last ejected fluid contained some of the pulp of the apricot and ham undigested, along with some yellowish bile. He now felt much relieved from the oppression at the præcordia; the belly is evidently reduced in size. These efforts of the stomach were accompanied by a rumbling noise. He has less fever, and complains very little of pain; has a better countenance, and is more cheerful. He now informs me, he feels as if he could have a stool. Every effort as he lay being tried in vain, I caused him to be carefully taken in the arms of the nurse, and placed in a little night-chair for that purpose, but without effect. He expressed a desire to be placed in bed again after sitting five minutes. I gave him another glyster with Glauber salts; this he retained two hours, and then parted with a portion only without feces; a second calomel pill like the first was repeated. He was washed twice since last night. Nine o'clock P. M.—His vomiting still continues; pulse rather fuller than in the morning; febrile symptoms somewhat increased; the glyster was again repeated with Glauber salts and sweet oil; four leeches were applied to the chest, and the bleeding to be encouraged; the saline mixture to be continued.

Saturday, August 26th, nine o'clock A. M.—He hiccupped much after I left him last night, and was very restless; but after day-light he became more tranquil. The leeches bled well. He still continued to vomit as often as fluids were given him; had not parted with the glyster I gave him last night. He complained a good deal of soreness of the belly, notwithstanding his pulse and other febrile symptoms are much abated. I gave him a table-spoonful of castor-oil, and an injection of Epsom salts, in four ounces of water. In a quarter of an hour he requested to be placed on his chair. He now had a full and copious liquid stool, sitting in this erect position full 20 minutes. On examining the contents of the motion, it consisted of a quart or more in quantity, principally of gruel, with some few small lumps of feculent matter; these I had washed; they were found to contain several portions of the rind or skin of the apricot. He was much relieved, and highly pleased at having this evacuation, and spoke more in his natural voice. Seven o'clock P. M.—Soon after I left him, he took two or three spoonfuls of boiled milk, which he vomited about twelve at noon. He has not vomited since, and had no more stools. He is in every respect better. The castor oil, with an injection of water-gruel, was repeated; the washing of the body when hot was to be continued.

Sunday, August 27th, ten A. M.—He has had four stools without pain since last night; the two first very copious, and amongst them was discovered more of the rind of the apricot. Breathing is much relieved; pulse and skin nearly natural; he has been washed several times since yesterday, from which he always finds relief and comfort. No vomiting since yesterday noon; slept well. Eight o'clock P. M.—Has had two stools since morning; pulse and heat of skin rather increased. The cold ablution to be repeated.

Monday, August 28th, eleven o'clock A. M.—Four stools since last visit; the first contained a lump of undigested apricot; the last was slimy and of a dark green colour. The tongue is clean; he has slept well; the fever is much abated; breathing natural; no thirst; expressed a wish for some roast mutton, which was not allowed. Nine P. M.—Too many visitors having been admitted, his fever was increased this evening. Skin hot; pulse fuller, and somewhat cordy. Two stools since morning, of good consistence. Applied six leeches to the thorax, which bled freely for two hours, during which time the abdomen and chest were fomented, and the legs, arms, and face well washed in cold water, which immediately reduced the heat of skin.

Tuesday, August 29th, ten o'clock A. M.—Much better in every respect. Removed three of the sutures.

Wednesday, August 30th, eleven o'clock A. M.—Free from fever; in every respect doing well; had two stools since yesterday, but of too firm consistence. Removed the remaining sutures this morning; the wounds seem to be nearly closed, except about an inch of that part of the wound nearest the ileum. Some matter was discharged from the abdomen between the stitches. The calomel pill is to be repeated this evening, and the castor oil in the morning.

Thursday, August 31st.—Has had four natural stools since yesterday, of the same consistence. Some pain last night in the abdomen. His father, from mistaken motives, omitted the calomel pill and oil; both were now given him. Tongue clean; skin and pulse quite natural.

Friday, September 1st.—Has had four small stools since yesterday; the last watery; the abdomen fuller than it ought to be. On inquiry I found that his parents had given him more hasty-pudding than was ordered, thinking I did not allow him sufficient nourishment. He is now in much pain, and his fever is increased; pulse quickened, with a catching of his breath; slept well in the beginning of the night. Until last evening had voided his urine freely, and in full quantity; since then it has been very scanty, and passed with much pain. I was now given to understand that he has been subject to a stoppage of his water at times, ever since he was three months old. The wound in the thorax granulates and looks well; that of the abdomen more open since yesterday; the peritoneal coat, however, appears firmly attached its whole length. This wound discharges more white purulent matter than can be accounted for from the size of the wound, yet no opening can be discovered into the cavity of the abdomen; he is much reduced.

Saturday, September 2d.—He has had four watery stools, and has passed his urine freely. Pulse and breathing natural; abdomen flaccid; tongue clean; no pain; quite cheerful; wounds look healthy; the lower one discharges good matter, but in increased quantity.

Sunday, September 3d.—As yesterday.

Monday, September 4th.—Wounds look well and healthy, and discharge freely. The lower portion of the abdomen appearing rather fuller than yesterday, I applied a gentle pressure, when a small quantity of pus spun out of the abdomen, through a small opening that now discovered itself, but not sufficiently large to admit the blunt end of a probe. He is free from fever; bowels open; in good spirits; complains of hunger; allowed a small portion of boiled milk.

Tuesday, September 5th.—Has had but an indifferent and uneasy night; very little sleep until this morning, when he slept for three hours. He appears much worse to-day. The pulse quick and small; complains of great pain in the pit of the stomach; belly distended; tongue rather white; breathing short, with moaning, but no shiverings or sickness; has had three watery stools; he has been more fretful, and passed no urine since last night. Repeat the calomel pill, and foment the abdomen. Nine P. M.—He passed a pint of urine in about an hour after I left him, which appears to contain matter; has had two stools, and passed another worm; he is in less pain. The body, which had become less, has again increased to nearly its former size; he is in better spirits, and amuses himself as usual; skin cooler; pulse quick and full, but not cordy; no thirst. Repeat the fomentation.

Wednesday, September 6th.—Slept well the whole of last night; has had one copious stool this morning; has very little fever; skin cool; wounds improve, and discharge freely; pulse nearly natural; quite cheerful; passed very little urine; belly not quite so prominent; soft and less painful, yet not easy, especially about the scrobiculus cordis. Ordered parsley-root tea for drink, and beef tea for food.

Thursday, September 7th.—Urine passed more plentifully; belly softer, and less swelled; wound in the abdomen healing fast, and the discharge less in quantity; in every respect improving.

Saturday, September 9th.—Somewhat feverish to-day, supposed to be owing to taking too much food yesterday. Repeat the castor oil twice in the week.

Wednesday, September 13th.—Wounds healing fast.

Saturday, September 16th.—Has been allowed these last three days some boiled chicken in small quantities, without any bad consequences following; wounds discharge very little, and are nearly closed; complains of some pain on the slightest pressure on the fractured rib, but not the least pain in any part of the abdomen. He is now allowed to sit up an hour or two each day. Convalescent.

Wednesday, September 20th.—It is now a month since the accident occurred. The wounds are perfectly healed. He walked across the room with the assistance of a person holding him by one arm. He is of course much emaciated and very weak, not able to put his left leg in a right line forward, but throws it across the other, but sits perfectly upright. In every other respect he is quite restored. Whenever he laughs, when the bandage is removed, the parietes of the abdomen, for about two inches in diameter, where the cicatrix is formed, rises into a round ball. The parietes are extremely thin, so much so, that the peristaltic motion of the intestines has been frequently seen through them. A laced jacket, made in the form of stays, with a pad of linen in the direction of the wound, was this day applied, and recommended to be worn until he recovers the complete power of the abdominal muscles.

Wednesday, September 27th.—Walks perfectly well, and is fast recovering his strength.

It seldom falls to the lot of country surgeons to see such extensive lacerated wounds, and more particularly where the intestines were so completely divided as in the case now related. I noted down, at the bed-side of the patient, the facts relating to this case, in the most simple and accurate manner I was able. It is not necessary for me, in this place, to notice the various methods recommended by different surgeons, for the approximation of the divided intestine; it is my intention only to report the case as it occurred, and the method employed in the treatment. The intestine was completely separated, and the division extended into the mesentery. Four stitches of the interrupted suture were employed, making use of a small curved needle, with a double silk thread. Firm and sufficient hold was taken, passing the needle through all the coats of the intestine, from without inwards in one portion of gut, and from within outwards in the other. The edges were then brought accurately together, the ligature tied fast, and the silk cut close to the knots. I did not apprehend any danger in this case from the contents of the bowels passing through the wound into the cavity of the abdomen, notwithstanding the distance of the stitches. Thinking that they would more easily pass through the open and natural passage, I presumed that every portion of the divided intestine would be equally pressed upon, so as to prevent the escape of any contents; nor had I any fear of its sides adhering for want of being distended by artificial means, judging that the constant passage of the fecal matter would prevent it. No case can more clearly establish Mr Travers's * opinion respecting the superiority of the adhesive tendency of the peritoneal coat, over the remaining parietes of the abdomen, than this. The swelling of the abdomen, no doubt, was owing to an overloaded stomach, the bowels being partly distended with air, and to a retention of his urine. To these combined circumstances do I attribute the opening of the wound, down to the peritoneal coat, which was distinctly seen; therefore, had not the union of this coat been sufficiently firm, the most fatal effects would in all probability have ensued. The omentum being lacerated through its whole length, was no doubt the cause of the matter forming within that cavity. This membrane was returned to its place without any other attempt to approximate its divided edges, than by laying them together. The treatment of this child, it may be observed, was as simple as possible; opiates were strenuously avoided, supposing that they would be highly detrimental in producing costiveness, and in increasing fever. In such cases as the above, the few additional hours of ease and rest are not at all adequate to the mischief produced by them. It may be thought there was an incongruity of practice in using the warm fomentation, and cold ablution at the same time. Water, I apprehend, whether cold or warm, have each the power of reducing febrile heat, and the former had the further effect of relaxing and softening the abdomen; and in this case their effects were strongly marked in relieving almost at once every febrile symptom. It appeared to me that this ablution and fomentation prevented the necessity of repeated general blood-letting. It is probable, had cold water been used to the abdomen instead of the warm fomentation, the same results might have been obtained, and that it might not have been necessary to remove the stitches so early.

This unfortunate boy † is small and delicate; has a mind superior to his situation in life and years. After his fever had abated, he expressed a desire for solid food; but he did not indulge it, and received a denial with great fortitude. It is true, indeed, that he cried a little once or twice on being denied it; and on these occasions his parents gave him more spoon-meat than what I allowed him. These little excesses invariably produced an accession of fever; and he became so sensible of this, that he oftentimes refused taking more although offered to him. I

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* *Vide* Travers on the Intestines.

† Three years ago he fractured the femur of the left thigh.

have not the least doubt but he will be as stout as if the accident had never happened; and that, in the course of time, the muscles of the abdomen will completely recover themselves.

Collingham, near Newark, Nottinghamshire,
1st Nov. 1815.

VII.

On Puerperal Fever, as it appeared at Holloway, near London, in the early part of the year 1812. By DAVID DUNN, Member of the Royal College of Surgeons in London.

ON the 8th of January 1812, I was called to attend a lady in labour with her ninth child. The presentation was natural, and she was delivered within two hours after my arrival. She appeared to be doing extremely well, till the morning of the 10th, about 38 hours after delivery. When I was called to her, I found her lying on her back, labouring for breath; complaining of great pain in the abdomen, with soreness on pressure; quick pulse; moist tongue; countenance expressive of great anxiety. Never having before met with this dreadful malady, I felt at a loss what measures to pursue. However, I abstracted a few ounces of blood from the arm (which I found much difficulty in doing, the patient being extremely fat); gave her some opening medicine; and, apprizing the friends of her extreme danger, advised that no time should be lost in procuring the first assistance the town would afford.

Two physicians of great eminence in the profession speedily attended. Purgatives were ordered to be continued, and the patient was again bled to the extent of ten ounces; fomentations were applied to the abdomen, and purgative enemas administered. The disease, however, continued to increase; and she died on the 13th, three days after the attack.

On the 17th of February, in the same year, I attended a woman aged 25 years, who had had several children. The labour was natural, and of no long duration; she continued very comfortable, with but trifling after-pains, and a moderate discharge, till the following evening (the 18th), when she was seized about ten o'clock (29 hours after delivery) with a severe shivering fit, accompanied with very copious bilious vomiting. This was succeeded by great heat, attended with considerable pain and soreness in the hypogastric region, and towards the left side thereof especially. I was not informed of this change till eight o'clock on the subsequent morning, when I immediately attended, and gave her Hydr. submur. gr. iij. Pilul. colocynth. cum aloe gr. xij. statim sumend. This operated briskly, and procured a plentiful discharge of foul fecal matter. On visiting her again at noon, found the pulse about 100, and small; tongue clean in the centre, white at the edges; great tenderness in the hypogastric region; pain in the head; the lower extremities cold; ordered her a saline mixture, with tartarized antimony and digitalis (fifteen drops of the latter in each dose) every four hours.

20th.—Had slept a little in the course of the night; complained of pain in the stomach and abdomen, more especially after taking anything; great tension in the stomach and hypogastrium; the lochia had ceased; pulse continued the same. Gave the digitalis in a mixture of infus. rosæ, with sulphate of magnesia, every four hours.

21st.—Had passed a restless night. The pain in the stomach and abdomen considerably aggravated on drinking any fluid. Pulse 120, soft, and easily yielding; the countenance flushed; head in pain; the eyes had rather a glassy appearance; the urine small in quantity, and turbid; the soreness, pain, and tension in the abdomen increased. Finding that nothing which had been done was of any avail, even in retarding the progress of the disease; though the state of the pulse rather contraindicated bleeding, and the notion I had entertained of the typhoid nature of the disease, had hitherto deterred me from having recourse to that operation; yet I now abstracted eight ounces of blood from the arm, more with a view to ascertain its nature, than as a means of relief; applied a large blister to the abdomen, and gave her half a grain of calomel with two grains of antimonial powder every four hours. In the evening her pulse was much as before; she thought the pains in the abdomen, stomach, and head, somewhat relieved. The surface of the blood was coated with a tough horny crust, about one-third of an inch in thickness. I ordered her some brisk opening medicine, and repeated the bleeding.

22d.—She had passed an easier night with respect to pain, but had lain in a state of low delirium. About ten o'clock this morning she was seized with most excruciating pains in the umbilical and hypogastric regions; the severity of which occasioned her to scream and roll about the bed in frantic agony; these, after lasting about an hour, ceased, and the pain subsided into its original state. She had had several stools in the course of the night. The blood was buffed as the former; but her pulse was now so much sunk as to prohibit the further detraction. Ordered a common glyster to be thrown up every three hours, and a grain of opium to be taken if the pain should return violently, and to be repeated as occasion might seem to require. Gave her also small doses of the Pulv. ipecacuanh. comp. in a saline mixture every four hours.

23d.—Continued much the same; had had no severe attack of pain; urine high-coloured. In the evening she was in a state of low delirium, with subsultus tendinum.

24th.—Quite comatose; pulse 140 and very weak. A blister which had been applied the previous evening to the nape of the neck had been ineffectual. She was evidently sinking fast. I made an attempt to support her by the frequent administration of cordials and diffusible stimuli, but without effect. She died about five in the evening.

Sectio Cadaveris.—The peritoneal coat of the small intestines put on a slightly reddened and inflamed appearance. The intestines were floating in an immense quantity of a serous milky fluid, in which was diffused an abundance of flaky matter of a sebaceous nature. The peritoneal investments of the stomach and large intestines assumed no unusual appearance. There was but a small portion of omentum, and that was diseased. The structure of the liver and gall-bladder was healthy, but both the latter and the stomach were gorged with green bile. The thoracic viscera perfectly natural. The fundus and body of the uterus were healthy, but the os uteri and upper part of the vagina had a dark and morbid appearance, with a looseness of texture.

In two other cases, in which I had an opportunity of inspecting the bodies after death, the appearances were similar to those above described, more especially the accumulation of the serous fluid, with the sebaceous flakes, and the engorgement of the stomach and gall-bladder with green bile.

Mrs G——, ætat. 23 years, was, on the 29th of February 1812, delivered of a female child, at the full period of utero-gestation, (it was the first). She had a safe and natural labour. She continued doing well, until Wednesday morning the 4th of March (being also the fourth day from her delivery), when she was attacked, after having passed a good night, about seven o'clock, with violent pains in the loins and abdomen, with disposition to vomit, but without shivering. She had taken part of an opening mixture, on the second day after delivery, which had cleared the bowels, and the nurse now gave a portion of what remained. About noon I was desired to visit her, and on reaching the foot of the stairs leading to her chamber, her painful and laborious breathing struck upon my ear, and instantly gave me intimation of the presence of this horrible disease. She complained of extreme pain in moving; great pain in the hypogastric region; hot and dry skin; pulse 120, full and strong; tongue coated with a yellow fur; urine scanty and turbid; bowels constipated; great tenderness on pressing the abdomen; lochia diminished; as also was the lacteal secretion, which had been very plentiful; tendency to delirium. I gave her the following pills.

℞ Hydr. submuriat. gr. vj.
Pilul. colocynth. cum aloe gr. xvj. M. ft. pilul. iij. statim sumend.

Ordered the abdomen to be frequently fomented, and desired a physician might be called in. At five o'clock in the evening, a gentleman of great learning and deserved repute visited her with me. We found her in a state of low delirium, but, when roused, could describe her sensations. She was now bled from a large orifice, to the extent of 20 ounces, and felt considerable relief, the abdominal pain greatly subsiding, and the pulse was lessened in number and in force. She was ordered to take the following draught every four hours.

℞ Mistur. amygdal. fl. ℥iss.
Potassæ sulphatis ℈j.
Liq. antimon. tartaris. ♏xx. M. ft. haustus.

Quiet was enjoined; barley-water or toast and water for drink. At half past eight in the evening I repeated my visit. The pain, after having been considerably relieved, returned again within the last two hours. The belly was still very painful to the touch, and also when distended by inspiration. The blood which had been drawn in the afternoon was much buffed and sizy. I took away eight ounces more, and applied eight leeches to the abdomen, from which a great deal of blood was procured. Fomentations to the abdomen, and the draughts to be continued. She had this evening a very copious evacuation of fetid, dark-coloured matter from the bowels, which came away while I was taking the last blood.

5th.—At half past eight in the morning, Dr F. and myself visited her again. We found she had passed a tolerably easy night, but became worse an hour and a half before our visit. She had now a return of pain and soreness, but which had shifted from about the umbilicus to low down in the hypogastric region, and just above the pubes. Pulse about 135; skin hot; tongue white; had had some slight shiverings; tendency to sickness; great heat in the part where the pain was situated;

thirst; no delirium; perfectly sensible, and capable of describing her feelings. Had passed several liquid stools in the night.

℞ Magnes. sulphatis ʒss.
Aq. pimentæ ʒiij.
Syrupi ʒj.
Liq. antimon. tartar. ♏xx. M, ut ft. haustus, 4tâ quaq. horâ sds.

℞ Hydrarg. submuriatis gr. v.
Pulv. jalapæ,
Pulv. rhæi, āā gr. vj.
Confect. sennæ, q. s. ut ft. pilul. iij. stat. sd.

℞ Decoct. amyli ℥xv.
Olei olivæ ℥j.
Tinct. opii ♏xxx. M, ut ft. enema statim injiciend.

As she expressed that cold was grateful to her belly, cloths dipped in the following lotion, the chill being slightly removed, were ordered to be kept applied thereto.

℞ Ammoniæ muriatis ℥ss.
Aq. puræ ℔j. M.

To take nothing but barley-water, or toast and water.

She continued lying motionless upon her back the whole of the day. In a short time after the application of the lotion, the pain almost entirely subsided. In the afternoon, she could bear me to press all over the abdomen with tolerable firmness, without much inconvenience. She could also inspire deeply, without pain; talked cheerfully, and could not be induced to obey the injunctions which had been laid upon her to forbear conversing. In the evening, on visiting her, the pulse had increased to near 150, small, and somewhat hard. I took away eight ounces more blood, which she bore exceedingly well. She had not been to stool to-day; ordered her therefore some opening pills and an enema.

6th.—She had passed a very comfortable night. There was very little uneasiness upon pressure in any part of the abdomen; breathing free and easy; skin cool; tongue much as before; urine turbid. She had not had any stool, and the pulse was still as quick as yesterday. The blood last drawn, though not buffed on the surface, was, on turning it up, observed to be interlarded with patches of coagulable lymph; her health appeared to be much improved; and her friends entertained the most sanguine hopes of her recovery. From what I had before witnessed, however, and the rapid state of her pulse, I felt by no means so gratified with this delusive calm, and urged the attendance of Dr F. again. My prognostics were too true. About one o'clock in the afternoon she was seized with a shivering fit; the pain in the umbilical region returned; the abdomen became swollen, and very tender; the pulse accelerated and weakened; the breathing painful; general anxiety. In this state we found her on visiting her about eight o'clock. Fourteen ounces more blood were ordered to be taken away, a continuance of the use of the lotion to the abdomen, and the following draught every four hours.

℞ Tinct. digitalis *m*x.
Magnes. sulph. ʒss.
Aq. pimentæ ʒiij.
Aq. puræ ℥j.
Syrupi ʒj. M. ut ft. haustus.
℞ Hydrarg. submuriatis gr. x.
Pulv. jalapæ ℈ij.
Mucilag. acaciæ q. s. ut ft. pil. xij. Sumatur ij. cum sing. haustu.

In the evening, about eleven o'clock, I saw her again. She had not been at all relieved; the blood was rather buffed; pulse much as before. As the Doctor had expressed a wish that, in the event of relief not being obtained, a repetition of the bleeding should be had recourse to, I, with some difficulty, procured about four ounces more. She, however, continued to get worse, and, about seven the following morning, she expired. Inspection of the body was not permitted.

On the 17th of June 1812, I attended a young lady, about 19 years of age, with her first child. The labour was of about eight hours duration, and perfectly natural. On the second day her bowels were opened, with Infus. sennæ and Magnes. sulphat.; and nothing unusual occurred till the 20th, being the commencement of the fourth day after her delivery, when she was attacked, about six o'clock in the evening, with pyrexia, severe pains in the hips and back, tenderness and pain in the abdomen. At eight o'clock (my attendance having been required), I found her in the state I have just described, with a pulse beating 120 in a minute, and full; the skin hot and dry; the respiration laboured. Reflecting on the uniform fatality of all the other cases which I had seen, and noticing, in the last case, the inutility of bleeding in the latter stages of the disease, which evidently only tended to hurry on the catastrophe by increasing the sinking,—and calling to mind that prominent feature which I had observed in all the examinations I had made *post mortem*, I mean the amazing accumulation of bile,—and aware, too, that after the fluid was poured out into the abdomen, nothing could possibly avail—I determined on adopting the following plan,—I immediately made a large orifice in the arm, and abstracted blood till deliquium animi was produced (being desirous that this, if possible, should be the only bleeding), which, from the quantity being so suddenly taken, occurred when I had procured about 18 ounces. The symptoms were immediately relieved; and I next turned my attention to a complete evacuation of the alimentary canal. I therefore gave her Hydr. submur. gr. iss. Antim. tartar. gr. $\frac{1}{8}$ 4ta. quaq. hora. Ordered the room to be kept cool, and the patient lightly covered. At half-past ten repeated my visit. The pain in the abdomen was completely relieved; that in the hips and loins continued; some pain in inspiration about the seventh rib; pulse still frequent and full. As the blood was, however, not at all inflamed in its appearance, and the pain and tenderness in the abdomen entirely subdued, I did not judge it advisable to repeat the bleeding, lest I should reduce my patient too much. I ordered the powders to be continued, together with small doses of magnes. sulph. and ten drops of the tincture of digitalis every four hours. To take light diluent drinks.

21st.—Had passed an easy night, and had discharged, by vomiting and by stool, a very great quantity of bilious matter; urine scanty; neither pain nor tenderness in the abdomen upon pressure; pulse still full and quick. Increased the tincture of digitalis to twenty drops every four hours, with a view of lessening the vascular action. After this period she continued to improve daily; had no return of pain. The acceleration of the pulse continued, however, for some days before it subsided, during which she continued the digitalis.

After this, I saw no more of the disease.

The above cases are transcribed from notes taken by me at the time I was attending the several patients. The very excellent and scientific works of Dr Armstrong and Mr Hey were not then published; and I shall feel great pleasure if the contribution of my mite of experience will at all tend to corroborate the propriety of the views they have taken of the disease, and the plan of treatment which they have pointed out for its cure.

Holloway, near London, October 31, 1815.

VIII.

Three Cases of Inflammation of the Heart, with the Appearances on Dissection. By ANDREW DUNCAN Jun., M. D., Professor of Medical Jurisprudence in the University of Edinburgh.

THE two first of the following cases came under my own observation when I had the temporary charge of the Clinical ward; and it is a very singular coincidence, that they were both admitted on the same day. The last occurred to Dr Spens, to whose friendship and liberality I am indebted for it. Hospital records compensate, by their authenticity, for many imperfections. These cases are therefore printed, without alteration, from the journals kept at the time. For a somewhat similar reason, the remarks I have subjoined are part of those then delivered to my pupils; they were necessarily composed in a very short time, and might have been improved by subsequent reflection and research; but my object is merely to increase our store of facts on an important disease, and to subjoin such observations as arose naturally out of the consideration of those which occurred to myself.

CASE I.

ROBERT BAXTER, æt. 28.—March 11, 1815.—Miner.

Complains of severe headach, and a gnawing pain in the region of the stomach, not increased by pressure, but much aggravated on taking food; with a sense of a ball in the under part of the abdomen, working upwards through the course of the alimentary canal to his throat, when he feels as if immediate suffocation would ensue. This feeling he has experienced almost every night for nearly three months past. Frequently, although not always, at the beginning of each paroxysm, he has a very copious flow of urine, approaching nearly to the colour of table-beer. During the fit his belly swells, and it is always relieved by a great discharge of flatus by the mouth. He is not sensible of foaming at the mouth during the paroxysm; nor, if standing, is he thrown to the ground, but becomes so giddy as not to be able to stand without assistance. He also complains of great debility, want of appetite, interrupted sleep, and a disagreeable taste in his mouth on awakening in the morning. Has a delicate look; pulse 104, of moderate strength; H. natural; tongue covered with a brownish crust, with a clean edge; some thirst; belly costive, in which state he always feels worst; urine varies; when his complaints are severe, it is increased in quantity, and of a higher colour.

Began to complain about three months ago. Was first seized with the pain and sense of tightness in the region of the stomach. Can remember no cause for his complaints, except being exposed to cold and hard work. Nothing happened at that time particularly to affect his mind. Says he has used stomachic bitters and bark, without alleviation of complaints. Was formerly troubled with symptoms nearly similar to the above, but never to such a height. Was able always to follow his occupation, and enjoy a good appetite.

12th.—Is in the same state as when admitted, but has had no stool for two days. Pulse 105.

Capt. infus. cas. sen. ℥ij. om. bihor. donec superv. cath.

13th.—The senna operated well, and he felt himself better until about two hours ago; since which time he has been affected with pain in the stomach. Pulse 100.

Int. infus. sennæ.

℞ Pulv. cort. Cinchon. flav.
Pulv. rad. Valer. syl. ā ℥ss. M.

Capt. coch. parv. bis indies.

14th.—Complains of general pain in his shoulders and back, and more particularly of griping pain in his bowels. Has also considerable vertigo when he walks, and some little appearance of globus, though not decided; no appetite; no thirst; belly natural; pulse 100, very small; tongue almost clean.

Cont. med.

15th.—Passed a better night, but complains of rheumatic pain in the shoulder and down the left side, and also of considerable heartburn, during the paroxysm of which, he expectorated a little blood. Belly loose; urine natural; pulse 104.

Cont. Pulv. valer. et cinchon.

Capt. Carbon. magnes. ℈i. pro re nata.

16th.—Slept ill last night from griping pains, which still continue: Has also rheumatism of the back of his neck. Heartburn relieved, and has no globus. Pulse 104; no appetite; some thirst.

Cont. med.

Capt. statim haust. anod. cum tinct. opii gtt. xxv.

17th.—Still complains of rheumatic pains and of uneasiness after food, but he eats more than the house allowance. Belly natural; pulse 105, small; slept well from the draught.

Cont. med.

18th.—Complains of lightness of head, and also of pain in his back; belly and urine natural; tongue not clean; pulse 104.

Int. med.

Illin. dorsum ung. terebinth.

19th.—Still has many complaints of headach, general weakness and pains; slept tolerably; griping pains rather diminished. Complains of pain, even on slight pressure, a little below the scrobiculus cordis, and to the left side. Pulse 108.

Cont. med.

Illin. pars affect. tinct. sap. et opii.

20th.—Complains still of giddiness and oppression at his stomach after taking victuals; slept well; pain in the shoulder rather better; pulse 104.

Int. med.

Capt. infus. anthem. alkal. ℥ij. om. trihor.

21st.—Complains of pains in his bowels, increased on pressure; of weakness and giddiness; pulse 104.

Cont. med.

22d.—Still complains of rheumatic pain in his shoulder; also of pain in the bowels, increased on pressure; pulse 104.

Cont. med.

Injic. enema fetid.

23.—Complains much of pains in his belly, especially since breakfast; also of giddiness, and great weakness; slept well; says he perspires much; has acidity at his stomach; the pulsation of his heart is distinctly felt, even when lying towards the right side; and he has repeatedly fallen from his chair when sitting by the fire. Pulse 107.

Int. omnia.

℞ Gum res. assafœtid. ʒj. Solve in decoct. malv. comp. ℥x.
Injic. bis indies, pro enemate.

℞ Carbon. mag.
Pulv. rad. valer. sylvest. ā ℥ss.
Capt. coch. parv. ter in die.

Let him have ℔ ij. of beef tea daily.

24th.—The injections came away immediately, and unmixed; he thinks that the pain in his bowels has been worse since; complains still of the soreness of his stomach; is very languid. Pulse 110.

Cont. med.

℞ Infus. gentian. comp.
Vin. domest. ā ā ℥vj. M. Capt. cyath. ter indies.

25th.—Is extremely languid and weak, both in body and mind; bowels very loose; pulse 105, weak; H. natural.

Cont. vin. amarum.

℞ Pulv. rad. valer. sylvest.
Pulv. cort. cinchon. ā ℥ss.

Infund. in aq. bullient. ℔. j.
Agitentur in vase clauso per horas duas, colaturæ, adde
Aq. cinam. ℥ j.
Æther sulph. ʒ j.
Syr. amom. zingib. ℥ss. Capt. cyath. bis in hora,
Illin. abdom. ol. succini. ℥ j. quamprimum, et bis in dies injic. enemata.

24th.—Is in a remarkably languid state; requires to be fed. His limbs are almost cataleptic, lying in whatever posture is given to them. Some singultus this morning; is very distinct when spoken to. Pulse 122.

Int. med.
App. vesicat. nuchæ.
℞ Vin. rub. Lus. ℥vj.
Æther sulph. ʒij.
Tinct. opii gtt. xl. M.
C. ℥ss. om. semihor. et sæpius si op. sit.
Hab. etiam magnes. ℥ss. pro re nata sumend.

Let him have a bit of steak.

27th.—Died this morning at seven o'clock.

Sectio Cadaveris.—The contents of the cranium, thorax, and abdomen, were carefully examined.

About an ounce of a transparent and colourless fluid was found accumulated between the dura mater and arachnoid coat, about the lower surface of the cerebellum, and the origin of the spinal chord, obviously collected here in consequence of the position of the head after death, and in all probability partly derived from the spinal canal. Within the lateral and middle ventricles, there was also from half an ounce to an ounce of a serous fluid. The brain and its membranes presented no appearance of disease. The lungs adhered very extensively on both sides to the parietes of the chest, but chiefly on the right. The adhesions were close and strong. The substance of the lungs had undergone no morbid alteration of structure. The pericardium contained from six to eight ounces of a greyish muddy serum, with flakes of a curdy matter. The heart had suffered a change of texture, not less singular than extensive. The whole parietes of the right auricle, and the anterior side of the corresponding ventricle, were found converted into a greyish-coloured substance of a very uniform texture, and having the consistence nearly of the prostate gland. There was not the slightest vestige of any of the natural tunics of the heart in this substance. The parietes of the left ventricle had undergone a similar change for about an inch all around its auricular orifice, and there was fully a third of the septum between the ventricles, towards the base of the heart, converted into the same substance. Between the arterial orifices too, the septum was a little thicker than usual. The inner surface of the right auricle was covered with a sort of efflorescence, not unlike that which is often exhibited by hydatid cysts. The left auricle exhibited no morbid appearance. The valves, tricuspid, mitral, and semilunar, were of their natural structure, as also the roots of the pulmonary artery and aorta.

Within the cavity of the abdomen, there was most extensive disease. The whole mesenteric glands were enlarged, so as to form one irregular mass. When divided, they exhibited an appearance like that already described, as having been found in the sides of the heart. The whole of the colon had its coats thickened and rendered exceedingly tender. At various points of it, there was a vascularity accompanying this thickening, which indicated inflammation. At other parts, the sides of the intestines had become considerably thinner, and projected in the form of little pouches, which adhered to the parts with which they happened to be in contact. The whole of the jejunum, and a great part of the ileum, were in the same state. In the angle formed by the junction of the transverse part of the colon with the large curvature of the stomach, which were found closely applied to each other, there was a stratum of half an inch broad, and a quarter thick, of the same sort of substance as was found in the heart. Towards the surface of the liver, in its right lobe, and at its upper convex part, there was a knot of the same kind of matter, of the diameter of a shilling; but, in other respects, this organ had a healthy appearance. There were two or three nodules of a similar matter, in the substance of the pancreas. The spleen presented nothing remarkable.

There was about a pint of serum effused into the cavity of the abdomen, which, except where it had touched the gall-bladder, and in consequence acquired the colour of bile, was of the usual yellowish tint, and quite transparent.

This case appears interesting,

1st, From its rapid and unforeseen event.

2d, From the appearances discovered on dissection.

When admitted, it was supposed to be a case of hysteria in a male,—a rare occurrence, yet not unobserved. Some consider hysteria and hypochondriasis as the same state of disease, modified by sex; the former being peculiar to women, the latter to men. This is in general true, but exceptions do occur; and it is not sufficient to reject all the testimonies adduced in proof of this, because we ourselves have not seen it. Unequivocal case of hysteria in men have been seen by Dr Trotter and others. Hypochondriasis certainly oftener affects females.

The difference between them depends much on temperament. Hysteria is peculiar to the sanguine, and hypochondriasis to the melancholic temperament. In hysteria, the affections of the mind are characterized by fickleness and mobility; in hypochondriasis, by the obstinacy with which the mind broods over a single subject. In hysteria, the patient is violently affected by every circumstance external to herself, and is agitated by every sudden impression; but the paroxysm is no sooner over, than she laughs at her own folly, thinks no more of it, and resumes her wonted spirits. In hypochondriasis, on the contrary, external circumstances make little impression on the patient; and if a sudden and violent impression rouse him for a moment, he speedily returns to brood over his loss of health, or finds in what has just passed fresh cause for despondency.

The symptom in Baxter giving rise to the idea that his disease was hysteria, was the accurate description he gave of the globus hystericus. But after he came under our care the symptom did not recur.

I was then led to consider his complaint as hypochondriasis, from the pain of stomach, increased on taking food; the irregular state of his urine; the costive belly; flatulence; interrupted sleep; bad appetite; foul tongue, and bad taste in his mouth; and still more by his constant complaints. I therefore left him a day or two to observe the symptoms.

On the 23d it is reported that the pulsation of his heart is distinctly felt, even when lying on or towards the right side; and it is remarkable, that, except the weakness of the pulse, and its occasional frequency, this is the only symptom connected with the state of the circulation noticed in the reports. It indicated a labouring action of the heart; but I did not perceive any irregularity in its action; and as it is a common symptom in hypochondriasis, from sympathy with the state of the stomach and bowels, it did not further attract my attention.

Another symptom was noticed the same day, that he had repeatedly fallen from his chair when sitting by the fire. This might either proceed from syncope, or a nervous paroxysm, or from falling asleep; and I was positively assured that it proceeded from the last cause, which, in his debilitated state, was very probable.

This day his complaints first appeared to me to be serious, and I resolved to try with him Kaempf's method of treating hypochondriac affections. I therefore ordered him to get two of his visceral injections daily. But, in this case, they did no good whatever, and the treatment was disagreeable both to the patient and the nurses.

On the 25th, his appearance was strikingly worse, and he was reported extremely weak both in body and mind. He was now evidently sinking. He was lying almost without sense, or the power of motion. Not having seen him for many days except in bed, it was not easy for me to judge of any gradual decrease of strength, but it was now too great to escape notice; and although I did not report it, I had observed that, for some days past, he spoke in an inarticulate mumbling manner; but after it attracted my notice, I could not ascertain whether it was his natural mode of speech, or the effect of disease.

On the 26th, he was still much worse; he seemed to have lost all muscular power; he required to be fed as a child; he sunk down to the bottom of his bed, and his limbs, which were perfectly supple, lay lifeless in whatever situation was given to them. He had also some hiccup, but seemed to retain his senses, or at least answered when spoken to.

My idea of his present complaints was, that effusion had taken place in the brain or upon the spinal marrow, oppressing the powers of life. The debility was evidently not the effect of fever, and it was too great and too quick in its progress, as I conceived, to be the effect of inanition or natural wasting. I therefore ordered a blister to the nape of the neck, and a stimulant cordial, with full diet. But these remedies were of no use, for he died next morning at eight, having been seized the evening before, at eleven, with very difficult and laborious breathing, amounting almost to convulsions.

The body was opened next day by my friend Dr Gordon, to whom I am indebted for the very accurate and excellent account of the appearances observed.

It discovered causes of the man's complaint, totally different from what I had conjectured; some of which corresponded with some of the symptoms which had affected him, but others had not been indicated by any thing observed.

The heart was found to be most extensively diseased, indeed to an extent which, from the importance of the organ, seemed impossible; and what is still more singular, it had not been accompanied by symptoms of any disease whatever of that organ, which shows how very difficult is the diagnosis of the diseases, even of the most important internal organ.

The pericardium did not seem in any way diseased, but it ' contained from six to eight ounces of a greyish muddy serum, with flocks of a curdy matter.' Besides the increased quantity of fluid, its appearance indicated a considerable degree of preceding disease in the membranes which furnish it, although no signs manifested its existence during the life of the patient. The muddiness of the fluid, and the flocks of curdy matter contained in it, are effects which we would naturally expect to have been preceded by inflammation of the pericardium; yet neither did any symptom occur before death, nor did the uniformly smooth surface and natural structure of that membrane, after death, afford any proof that inflammation of that membrane had previously existed; on the contrary, it was almost certain that it had not recently existed.

Corvisart * describes three species of pericarditis,—the acute, sub-acute, and chronic. The last he admits to be a disease of a very obscure nature, chiefly from the various complications natural to it; so much so, that he considers it as being generally the consequence of some preceding disease. He says he has frequently met with it, and always found the diagnosis difficult, and very obscure; and that he does not wonder that it should embarrass practitioners at the bedside of the patient. In the instance which he gives of it, he considered the chronic inflammation of the pericardium proved, by its being thickened and containing a turbid liquid; but, during life, there were manifest symptoms of deranged circulation and respiration, although they did not indicate precisely the nature of the affection. There was great variation in the action of the heart and arteries. The pulse, always quick, was alternately regular and irregular in every possible way, and the respiration was short, embarrassed, frequent, and accompanied by a sense of weight at the ensiform cartilage.

In Baxter, the pulse was uniform, not very quick, ranging from 100 to 110, and always weak; the action of his heart, indeed, seemed to be inordinate, but his respiration was perfectly natural. And as there was no thickening of the pericardium, the proof of inflammation rests entirely upon the fluid being turbid, and containing flocculi of a curdy matter.

Other authors have also noticed a similar change in the liquor pericardii. Morgagni found more than the usual quantity of somewhat turbid fluid in a negro who died suddenly without any previous disease; but here he ascribes the death to the vessels of the brain containing air.—(Ep. v. Art. 17.) In another case (Ep. x. Art. 13), it was connected with an immense exostosis of

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* A Treatise on the diseases and organic lesions of the Heart and Great Vessels, by J. N. Corvisart, M. D. translated by C. H. Hebb, pp. 404. 8vo. London, 1813.

the spine, pressing forward the ensiform cartilage. In another (Ep. xx. Art. 53), it was preceded by pain in the middle of the thorax, and the patient required to have his head elevated, although he could lie upon his back, and a little on his left side. In others (Ep. xxi. Art. 9, 24, 36), it was accompanied by pleuritis; and in one (Ep. xxii. Art. 24) with tubercular phthisis. But the following case, from the same indefatigable and excellent observer (Ep. xlv. Art. 23), deserves to be noticed more fully, as it resembles the case of our patient more than any other I have met with.

'A Venetian woman, aged forty, of the lowest order, addicted to wine, and of dissolute manners. She was fat and healthy, but was exceedingly timorous, and the slightest cause produced trembling, and almost fainting. She often could not retain any solid on her stomach, and could never taste fish. But, on inquiring after her other complaints at her intimates, they uniformly denied that she ever complained of her head or her heart, and particularly never of violent pulsation, palpitation, or any other affection of that organ, and she had never had inflammation of the thorax. Her only complaint was of the uterus, which she asserted moved about in the abdomen, and ascended to her throat, sometimes with a sense of suffocation, from which she was however speedily relieved.

'On the evening of the 1st January 1709, she complained that her ribs were as if cutting her, and sent for a woman whom she supposed could give her relief. Next morning, she said that she was seized with a very violent hysteric affection, and that her uterus, moving about, had ascended to her throat, and was choking her. But in one or two hours, at the most, she died, without having had any convulsions visible by the bystanders, or any frothing at the mouth.'

She was dissected ten hours after death, and Morgagni having doubts that it had actually taken place, proceeded with the utmost caution, after having made all the usual experiments to ascertain it.

Her limbs were not emaciated, but her abdomen and thorax were excessively fat, insomuch so, that her ribs were pressed in, and her sternum protruded by the size of the mammæ. There were adhesions of the lungs, slight on the left side, but very general on the right, with the presence of a pseudo-membrane. In the lungs were several hard, and as if tendinous places, and they were filled with frothy saliva.

The pericardium contained a good deal of turbid brown fluid. In the heart itself, the left ventricle was diseased. Not to mention that the tendinous fibres, which pass from the mitral valves and columnæ, were more numerous than usual, certainly the columnæ themselves were thicker and harder, and seemed rather tendinous than fleshy; whether the colour was considered, which was white, or their greater firmness when cut with the knife. Besides, in the parietes of the same ventricle, there were places here and there in which the fleshy substance of the heart was either white or reddish white, so that at first they appeared like glands; but, on being cut into, offered the same resistance as the columnæ.

This degeneration of the flesh of the heart into a tendinous nature was more evident towards the outer than the inner surface of the ventricle, and was visible on that part of the outside, corresponding with the septum. The aorta, from the heart to its arch, was evidently, but slightly, dilated, and was contracted near the diaphragm. When cut up, and the blood which it contained was discharged, its whole internal surface from the heart, at least as far as the emulgents, exhibited some projecting whitish particles or threads, and, wherever it was tried, the inner coat of the artery separated in large pieces from the next coat, with the slightest rub of the scalpel.

There was also considerable disease in the abdomen. The situation of the intestines was deranged; the omentum was drawn back to the spleen; the intestines, especially the colon and rectum, were distended with air. The mesentery, stomach, spleen, and liver healthy. The pancreas, and some of the small intestines red, and the glands firmer and more distinct than natural. Upon the posterior surface of the uterus there was appended, by a short neck, a small body resembling an unripe cherry in whiteness, form and size. On being cut into, it was formed of confused callous fibres. Another tumour of the same kind was in the substance of the uterus.

In investigating the organic diseases of the heart, it may be considered,

1*st*, As a muscle,—that is, merely as being an organ consisting chiefly of muscular fibres;

2*dly*, As the centre and chief organ of the circulating system.

In the first point of view, it may be considered as liable to the same diseases as other muscular organs; and, therefore, its obscure diseases may be illustrated by what occurs more evidently in them.

Muscles in general may suffer organic alteration,

1. In their form or structure;
2. In their composition.

Under the first head we include their number, size, situation, connexion, &c.; in short, all those great or more obvious deviations from the natural arrangement, which are easily detected by the knife of the anatomist, and, when once established, do not easily return to their original state.

Alterations in their composition consist in more minute changes, some of which even altogether elude our observation, while others are sufficiently obvious. They depend chiefly upon a change in their chemical constitution, and modify, if they do not determine altogether their powers.

The muscular fibre consists chiefly of that substance called by chemists fibrine; but it also, almost always, contains a colouring matter, gelatine and extractive.

Fibrine in itself is without colour, or white, as we see in the flesh of some fishes and birds, and in the fibrine obtained by chemical analysis from the blood.

It is not yet ascertained upon what the red colour of the flesh of man, and the higher orders of animals, depends. For the fact, that red muscles become white by washing, does not prove that the red colour depends upon the blood, but only that the colouring matter is soluble in water. Fishes have red blood, and yet many of them have white muscles; and in some animals, different muscles differ very much in colour. This is especially remarkable in the black-cock, where the outer layer of pectoral muscles has a very dark colour, and the inner is white; so that, in cutting out a slice of the breast, we have flesh of two very different colours, and yet supplied with the same blood, and even from the same arterial trunks.

In adult animals, the difference in the composition of their muscular organs is very striking; but, in all animals, from the moment of their existence to their final dissolution, there is a constant change going on; not merely that change by which one set of particles is removed as excrementitious, and replaced by another act of almost similar particles as nutritive, but a change by which the composition or chemical nature of the muscle is gradually changed.

At first, and in the embryo, the muscles are gelatinous. Haller found that the intestines of the common chick evince no irritability before the sixteenth day. Gradually the fibrine becomes preponderant, and in old age further changes take place.

But these changes are natural, and correspond with the situation of the animal; and they depend upon the concurrence of a variety of causes, the supply of a certain quantity and quality of blood, and a determinate degree of action in the exhalent and absorbent vessels; and this action is again connected with the agency of the nerves. Now it is evident, that, if any of these causes be materially affected, a diseased or unnatural composition of the muscle must immediately follow.

By increased absorption it is wasted; by increased assimilation it is augmented in bulk; but the change is often not so simple; and fibre of the natural constitution is supplied by that which is not natural.

Accordingly, we find muscles altered not only in their colour, density, and cohesion, but even in their very nature. We find them converted into fungous or scirrhous masses, or other diseased composition, or into cartilage, tendon, bone, &c.; substances not in themselves morbid, but here unnatural.

A change of this kind had taken place in Baxter's heart. The greater part of it had lost its natural red colour, and was almost white. This in itself is here a mark of disease; for, although in different individuals the intensity of the red colour of the heart differs naturally, as well as the colour of other muscular organs, yet the natural colour does not exceed certain limits; and when there is great and strikingly morbid differences between different parts of the same muscle, it seems always to proceed from disease.

But it was not merely in colour that the deviation from the natural composition of this heart was evident. Its texture or grain was also evidently changed; for, in that portion which had lost its natural colour, the fibrous arrangement natural to it was everywhere obscure, and in some places not to be discovered, even with the aid of a lens. It was not, however, absolutely destroyed, because, by boiling, it not only became hardened and crisped, though in a less degree than the natural fibres, but I succeeded, by very long boiling, in perfectly developing its fibrous texture. In short, the change of texture can be best described by saying, that, in a considerable portion of this heart its grain had become much finer than natural; so fine, indeed, that, without the assistance of art, the fasciculi upon which the grain of muscles depends could not be recognised.

This change was dispersed through different parts of the heart, but was chiefly obvious in the right auricle, septum, and left ventricle. In general, the change was less perfect near the inner surface, so that, there, the flesh, though white, was still visibly fibrous; while, as it approached the outer surface, its fibrous arrangement disappeared altogether. Yet, in the midst of these cartilaginous-like portions, a small bundle of red fibres was occasionally intermixed.

As it is highly improbable that an alteration of structure of this kind took place in the course of the few days during which Baxter declined so rapidly, we may suppose that it is not inconsistent with the heart carrying on its functions with tolerable regularity.

To ascertain this point, however, we should compare the phenomena which have occurred in other cases of the same kind,—but here we altogether fail; for, so far as I have been able to discover, no case exactly resembling this, in the kind of alteration of substance, has been observed, unless, perhaps, that which I have translated from Morgagni.

It is not unusual to observe white opaque spots upon the surface of the heart, sometimes thicker, and sometimes thinner; sometimes more, sometimes less distinct; and, at first sight, this heart seemed to present a spot of this kind, larger, thicker, and more distinct than usual; but, on cutting into it, the difference was obvious; for these spots are owing to the formation of a false membrane exterior to the proper coat of the heart, so that it can be removed, and leave the heart covered with its proper tunics. This appearance occurs so often, that Baillie and Soemmering do not consider it as being morbid. In Baxter's heart, however, it appeared that the white spots were owing to the substance of the heart itself being altered in composition.

But the alterations of the substance of the heart most resembling that of Baxter, are those in which part of it has been said to be converted into fat, adipocere, cartilage, or tendon. There is commonly some fat about the heart, and occasionally its quantity is enormously increased; but the state of Baxter's could never be mistaken for this disease, as in these cases the fat is external, and obviously a morbid accumulation of a substance otherwise natural. Weitbrecht is often quoted as having seen the substance of the heart converted into a mass like bacon, or lard, consisting of several layers, more or less thick; but, upon reading the particulars, as extracted from the Petersburg Trans. by Senac, it was evidently only a layer or layers of coagulable lymph deposited on the outside of the heart, and separable from it, which he only says in some places resembled lard; but he distinctly states, that it hardened in boiling water, and shrivelled when laid upon a hot iron.

However, there is no doubt, that the muscles in the living body are occasionally converted into a really fatty matter, as proved by its fusibility and inflammability. A recent instance of this in a sheep has produced a pamphlet from Dr Vaughan.*

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* Some account of an uncommon appearance in the flesh of a sheep. By W. Vaughan, M. D. pp. 38, 8vo. London, 1813. See this Journal, Vol. X. p. 97.

Therefore, it may have happened to a certain degree with regard to the heart, * and, in its incipient state, would have a good deal the appearance of Baxter's heart. Indeed, as this was the most natural conversion of muscle, I thought it necessary to ascertain, by chemical experiment, whether it had occurred in Baxter's; but it both hardened in boiling water, and shrivelled on a hot iron, giving out the smell of burnt feathers, and yielded not a particle of oil or grease to any trial.

Another alteration is, where it becomes tendinous or callous. Albertini found the substance of the heart tendinous in the half next the basis; Schaarschmidt the substance of the heart quite callous, sometimes the depth of two lines; Morgagni (Ep. xviii. Art. 34.) saw the heart larger, harder, thicker, and as if tendinous; there was also ossification of the aorta. She was a woman of 40, who had laboured for six years under difficulty of breathing, resembling spasmodic asthma, and died expectorating thick pus. At no time could the pulse be felt in her wrists; and yet, on dissection, the artery did not seem to deviate from its natural arrangement. The case already quoted from this author may be again mentioned.

The next morbid appearance noticed in Baxter's, was a sort of efflorescence covering the inner surface of the right auricle, not unlike that which is often exhibited by hydatid cysts. It consisted of globular and pedunculated masses, attached to the parietes, and had very much the appearance of fatty particles; but on analyzing them by fire, they were evidently fibrine or albumen; at least, when placed on hot iron they did not melt, but shrivelled and burnt with the smell of feathers.

The question in regard to these is, whether they existed during the life of the patient, or were first formed by the gradual coagulation of the blood after death, and the concretion of its coagulable lymph with the sides of the auricle. But, besides occurring in the auricle, it appeared that a similar substance, but more in the form of a membrane, had lined the right ventricle; at least fragments of it, passing under the columnæ carneæ, still remain in the prepared heart.

Except in general form, these have a considerable resemblance to the polypi of the heart, about which it was so long and is still disputed, whether they were formed before or after death; and probably the same arguments may apply here; as the only difference is, that in the usual form of polypi, there are one or

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* Since these observations were written, I have found the heart itself partly converted into fatty matter. See Case II.

more long fibrous-like masses of considerable size, often entering into the mouths of the vessels. That the great majority of these are formed after death, there cannot be a doubt; indeed, there are few bodies in which they are altogether wanting; but still there seem to be incontrovertible proofs of their being occasionally formed during life. The most decisive instance of this that I have met with, has been admirably described in this Journal,* by my friend, Mr W. Wood. Indeed, I am inclined to think that the loose body, as well as the attached mass observed by him, had the same origin with what Dr Gordon and myself have denominated the efflorescence in Baxter's heart. At any rate, they prove the possibility of its having existed there long before death, which becomes more probable when we consider, that such an appearance would be often observed, if it originated in the coagulation and separation of the blood in the heart after death, as in this there can be no great diversity. The great objection to this opinion, is the natural state of the circulation during life; but this admits of explanation, as no part of this efflorescence was loose, or situated so as to obstruct the flow of the blood.

There are three ways in which such concretions may be formed: 1. By an organized growth from a surface of greater or less extent: 2. By an inflammatory exudation from a living surface, such as takes place often on the lungs, and sometimes on the outer surface of the heart itself: And, 3. The coagulation of blood, in consequence of a portion of it being removed out of the current of the circulation, and becoming stagnant.

In the first manner are formed tumours, warts, &c.; and sometimes even loose bodies, by their subsequent separation, when originally attached by a narrow neck; † but this could not be the process in the present instance.

In the second way are formed all false membranes and adhesions; for the exuded lymph afterwards becomes organized, from the shooting of vessels into it. Concretions formed in this way are known by their generally adhering to the surface from which the exudation took place, or, if they have become loose, by their having a membranous or flocculent form. There was evidently a tendency in this man to the exudation of lymph, as evinced by the adhesions formed in various parts of the body; and the peculiarity of appearance of the efflorescence in the heart, that is, its being rounded into little masses, might be accounted for, by the peculiarity of the surface upon which it was exuded, viz. a reticulated muscular surface, in a constant state of alternate contraction and dilatation.

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* Vol. X. p. 50.

† See a paper of Mr Wardrop's, on moveable bodies found in the scrotum, in the third volume of this Journal, p. 421.; and another on an albuminous concretion found in the thorax, in the ninth volume, p. 11.

Concretions formed in the third manner are generally massive, long, and fibrous; in short, more like a polypus. Still these concretions may have arisen in this way, if we suppose, that, in consequence of its becoming less fibrous, the heart did not contract so readily, and did not empty itself at each systole, it would only propel the blood in the direct current of circulation, while that at the sides, lying among the musculi pectinati, might become stagnant, and have time to coagulate into grumous masses, which would soon acquire the appearance we saw in Baxter.

But, in whatever way they were formed, although I think the aetiology of such appearances always useful in leading us to further investigation and more accurate observation, the discovery of a means of removing, after they are formed, would be much more desirable. This is a degree of progress in the healing art which we can scarcely hope to attain; and, therefore, any means which presents the slightest chance of success, although apparently strange, deserves attention; and so I am disposed to consider M. Sherwen's proposal of scorbuticizing the system, first suggested in the Gentleman's Magazine for 1798, and afterwards renewed in this Journal for January 1814.

The last part of this man's dissection which I shall notice, was the great mass of disease found in the abdomen; and of it I shall say very little, as it has been sufficiently described by Dr Gordon. There were traces of inflammation, adhesion, formation of albuminous tumour, and a most extensive affection of all the mesenteric glands; and in the liver one of those tubercles so well described and depicted by Dr Farre, * under the title of Tubera diffusa. These appearances sufficiently account for the sensations of this patient; the pains in his belly; the feeling of a ball moving about, &c.; and all tend to show the extensive manner in which the system was diseased, and the incurable nature of his complaint.

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* Morbid Anatomy of the Liver. By J. Farre, M.D. 4to, London. Part I. 1812. Part II. 1815. I have referred this to the Tubera diffusa, as similar tubercles were found dispersed in various structures of the body; but from its determinate figure, and existing singly in the liver, it more resembled the Tubera circumscripta.

CASE II.

MARY RICKMAN, æt. 22, married.—March 11, 1815.

Complains of cough, attended with considerable expectoration; pain in the thorax, more particularly referred to the sternum and between the scapulæ, increased by full inspiration and cough; and of difficulty of breathing, aggravated by exertion. She is unable to lie in the horizontal position.

Complains also of pain in the right haunch, increased by pressure and exercise, but unattended by swelling. There is also considerable swelling of both ankles, which pit slightly on pressure; but there is no discoloration of the skin, nor is there any pain. Pulse 88; H. moderate; tongue rather white; much thirst; appetite bad; B. costive; catamenia irregular; urine natural; sleeps ill.

Complaints first began about ten days ago, with shivering and flushing; pain in the breast, and cough, followed, the next day, by pain in the shoulders, elbows, knees, and right haunch; but the pain in all these joints, with the exception of the last, is now gone.

Has been bled, and taken purgatives and diaphoretics, but with little benefit.

Attributes her complaints to exposure to cold.

Mitt. sanguis ad ℥xij. pleno rivo.
App. vesicat. parti affect.

12th.—Was bled last night; no buffy coat on the blood, which, however, is tolerably firm. The blister applied to her side rose very well; but, as she was not relieved this morning, she was ordered to be bled again, but would not submit to the operation. Has a very severe cough, which distresses her much; and she has had no sleep for eight nights past. Has had no stool. The pain in the side, where the blister was applied, is relieved, but it is more severe in her breast. Pulse 88, rather full, and somewhat hard.

Capt. inf. cassiæ sennæ ℥ij. omn. horâ donec supervenerit catharsis.
Caretur ulcus vesicat. unguent. sabinæ.
Rept. sanguinis detractio ut antea.

13th.—Was bled from the jugular vein, at three yesterday afternoon, to the extent of ℥x. The coagulum is pretty firm, but there is no buffy coat. She was relieved at the time; but her severe cough has brought back the pain, which is very distressing and general over the breast. Slept none. Her bowels were moved by some senna which she got yesterday. Great thirst; little appetite; pulse 80, and soft.

℞ Mist. scill. ℥vj.
Tinct. opii ʒj.
Capt. ℥ss. secund. quaque hora vel pro re nata.
Et app. vesicat. magnum pectori.

14th.—Slept a little last night, and the pain of her breast is somewhat relieved. The blister has not yet been removed, but has risen. She has had less cough, but this morning complains of considerable sickness. Pulse 92, full, but soft; skin hot, but slightly moist; belly costive; urine scanty.

Cont. mist. scill. et curetur pars exulcerata ung. junip. sabinæ.
Capt. infus. cassiæ sennæ ℥j. donec supervenerit catharsis.

15th.—The pain in the side is gone, but there is still some in the breast when she coughs, which has been very troublesome. Through the night, expectoration considerable; B. regular; urine natural; pulse 78, full and soft; tongue whitish.

Cont. fonticulus.
Intermit. mist. scill. et
℞ Mist. mucilag. ℥vj.
Tinct. opii ʒj.
Capt. ℥ss. pro re nata.

16th.—The pain in her breast is almost gone, but she has a great deal of very severe coughing, and much nausea. Her spirits are considerably depressed. B. and urine natural; pulse 74, and soft; heat natural; tongue white; great thirst; no appetite.

Cont. mist. mucil. anod.
Habeat vini domest. ℥ij. indies, beginning to-day.

17th.—The pain of breast entirely gone. Says she sleeps ill, but appears to dose a great deal. Pulse 80, soft; H. natural; functions natural; thirst gone; no appetite.

Intermit. mist. mucilag. anodyna.
Et capt. lincti communis coch. minus subinde.

18th.—Slept ill last night; cough and expectoration considerable. Has considerable nausea and retching; and vomited, this morning, some green bitter matter. Pain of breast gone; pulse 90; H. natural; tongue white; some thirst; no appetite.

Cont. linctus, et capt. Pulv. rad. ipecac. ℈i. pro emetico.

19th.—The cough continues better; but she was seized, during the night, with pains in her bowels, and perpetual tenesmus, without any evacuation. She got an emollient injection this morning, which was quickly rejected, without giving her much relief. Pulse 88; tongue clean; skin natural. She got the emetic yesterday, which operated well.

Cont. linctus.

Foment. abdomen stat. decocto malvæ comp.

Capt. stat. opii gr. ij. et post tres horas haust. ex ol. ricini.

20th.—Took the opium pill immediately after dinner, and felt easy till about eight o'clock at night, when the cough recommenced with increased severity, and prevented her from sleeping. The castor oil operated moderately; but at this morning's visit her complaints appeared to be considerably increased; she had great pain of the breast, much cough, and her pulse was full and hard. She was ordered to be bled to the extent of ℥x. and a blister to be applied. From the smallness of the veins only ℥vi. of blood were got, and she has coughed less since, but feels no diminution of the pain, and her pulse is still somewhat hard. Respiration somewhat laborious; pulse 100.

Cont. linctus, et capt. Pulv. jalap. comp. ʒss. et repet. dosis si opus sit.

21st.—The purgative powder acted with considerable severity, attended with gripes; is not able to lie upon her back, and was obliged to sit up all night, leaning upon her breast, but never slept.

She also complains of flatulence, proceeding upwards from the stomach, and of dyspnœa, and of a sensation of hollowness or want in her chest. Pain relieved, and not much cough; but she expectorated a great deal during the night. Pulse 88, and moderately full; tongue clean; H. natural.

Habeat trochisc. glycyrrh. c. opio, numero xxiv. quarum capiat. unum pro re nata.

Cont. linctus, et utatur semicupio quamprimum.

22d.—Is still much distressed with the breathlessness, and has had no sleep during the night. Cough rather looser after coming out of the bath; but her breathing was very much affected. Has still some pain of belly and tenesmus. Pulse 104, and soft; skin rather warm; did not get the lozenges yesterday.

Intermit. semicup. Rep. trochisci et linctus, et injic. enema emolliens quamprimum.

23d.—Has had no sleep from being unable to lie down on account of the cough, and is greatly distressed for the want of it. Has rather less cough when she sits up. Has considerable pain in her breast when she lies on the right side. Expectorates a white frothy matter. Has still great tenesmus, and the emollient glyster gave her no relief. Considerable thirst; no appetite; pulse 110, and natural; B. costive.

Cont. linct. et trochisci, et capt. tinct. digital. gtt. x. omn. trihorio, atque injiciatur quamprimum enema purgans.

24th.—Has passed a sleepless night, and cannot lay herself down. Rather more cough and less expectoration. Complains also of pain in her throat, which she distinctly refers to the trachea. On examining the fauces, some inflammation is visible.

The purgative injection had no effect, and she has got infusion of senna this morning, which has not yet operated. Pulse 108, and full; tongue clean; some thirst.

Cont. med. et inf. sennæ, atque illinatur guttur anterius oleo ammon.

25th.—Had a blister applied to her throat yesterday, and had about two hours sleep before it began to rise. Since that time the pain in the trachea is better; but this morning her cough has returned with severity. Expectoration white and frothy; very copious. Has much dyspnœa. Complains also of her legs, which are very much swelled and tense, though they pit slightly on strong pressure. They are also painful to the touch. Pulse 106, not full.

Intermit. med.
Et capt. mist. scill. ℥ss. pro re nata.
℞ Ol. volat. terebinth.
Ol. camphor. ā ℥ss. M. agitando, et mistura illinantur crura.

Let her have a little bit of beef-steak to-day.

26th.—Is still very much distressed with cough and dyspnœa. Cannot lie in bed, but slept some sitting in a chair. Expectoration copious, frothy, but of a purulent appearance. Was seized last night with a sense of straitness across her chest, which was relieved by a draught of æther and laudanum. Her legs are less painful since they were rubbed with the oil. Urine scanty; B. natural; pulse 108, rather full.

Intermit. med. et
℞ Syrupi simp. ℥iv.
Tinct. opii gtt. xl.
Mucilag. mim. nilot. ℥j.
Æther. sulph. ʒij.
Capt. coch. subinde.
Cont. frictio.

27th.—Was somewhat relieved by the mixture, and got some hours sleep sitting in the chair; but she is unable to lie down, and is much distressed with pain in her back and head, apparently from fatigue. Legs still very much swelled, but not painful. Pulse 114, full; B. regular; urine scanty; considerable thirst; expectoration copious, and swims in water.

Cont. med. et capt. tinct. digital. gtt. xij. ter indies.

28th.—Was very ill last night, but afterwards had some sleep. Is unable to lie on her back, and is easiest upon her breast or left side. Cough and expectoration continue. B. natural; urine copious; pulse 100, and of moderate strength; H. natural.

Cont. med.

29th.—Slept a good deal last night, kneeling upon the floor, with her breast against the bed. Cough and expectoration continue. Pulse 112; each alternate beat being much weaker; B. regular. Says that it is chiefly owing to the pain of her thighs that she cannot sleep, which, however, are less swelled than they were some days ago.

Cont. med.

Et illinant. crura tinct. sap. et opii.

30th.—Has still great dyspnœa, but slept a good deal upon her knees. She sometimes rests upon her hands and knees, to get freer breath, and cannot lie at all upon her back. Still coughs, and her expectoration is copious and purulent. She has also great distress from the swelling of her legs, which are very œdematous as high as the knees. Pulse 100, and natural; little thirst; no appetite; B. regular.

Cont. med.

Et habeat haust. ex tinct. opii gtt. xxv. atque æther. sulph. ℈j. h. s. sumend. atque scarificentur malleoli.

31st.—Would not permit the scarifications to be made. Had a little rest in her usual posture. Expectoration freer; breathing laborious; pulse 80, and intermitting.

Cont. med.

Et cap. pil. myrrhæ et ammon. gr. x. bis indies.

April 1st.—Continues much in the same state. Pulse 100, not weak.

Cont. med.

2d.—Passed a bad night, from a fresh attack of pain in her left side. She also complains much of flatulence. Pulse 110, full, and rather hard; B. regular; great thirst; little appetite; less cough and expectoration.

Mitt. sanguis ad ℥vj. statim.

Intermit. med. et capt. solut. gum. ammon. ℥j. om. bihorio.

3d.—Was not relieved by the bleeding last night, and thinks her cough rather worse. Expectoration as before; and she is greatly fatigued from being unable to lie in bed. Pulse 104, full and soft.

Cont. sol. ammon. et Hab. linct. opiati ℥ss.

Let her have some currant-jelly to-day, and daily.

4th.—Is still unable to lie down. Cough as before. Spitting decreased, but it is much tinged with blood. Pulse 100, and full.

Cont. med. et Capt. h. s. haust. anodyn.

5th.—Had some hours sleep, which refreshed her a little; rather less cough; expectoration diminished, and tinged with blood. The sternum, when struck, does not emit a hollow sound; and the pulsation of the heart is very distinctly felt lower than the ensiform cartilage. Pulse 110, natural; great thirst; little appetite; B. regular; urine natural.

Cont. med. et scarificentur pedes.

Let her have some good small beer.

6th.—The scarifications made in her feet discharged a great quantity of serum during the night and this morning, and the swelling of her legs is entirely removed. Is however in great distress, from not being able to rest. Pulse 100, and natural.

Cont. med.

7th.—The scarifications have continued to discharge very freely, and relieved almost entirely the swelling of her legs. Her breathing also seems to be somewhat relieved by it, and her expectoration is easier. Pulse 120, natural; B. regular.

Cont. med. et capt. pil. digital. gr. v. mane et vesp.

8th.—Has been asleep since five o'clock this morning, lying on a mattress. Pulse 100.

Cont. pil. digital. linct. opiat. et haust. anod.

9th.—Cough still very severe. Expectoration difficult, purulent, and not copious. Right foot is affected with erysipelatous inflammation, causing great pain. Some return of œdema. Extremely weak, and got no sleep last night, although she lay in bed. Pulse 100, rather weak; B. regular; less thirst.

Cont. pil. digit. linctus, et haust. anodyn. et appl. solut. acetat. plumbi pedi.

10th.—The inflammation of the foot is rather diminished by the use of the saturnine lotion.

There is some ecchymosis around one of the punctures, which is again beginning to discharge lymph; but the œdema of the right leg is again very considerable, and extends above the knee. There is some inflammation on the left foot; and the œdema has got as high as the calf of the leg. Since the inflammation of her leg came on, she has had great alleviation of her pectoral complaints. Pain of breast almost gone; and she can sleep in a horizontal position. Expectoration purulent, and not very copious. Pulse 112, and soft, small; B. regular; urine natural.

Intermit. haust.

Cont. pil. digitalis, linctus, et solut. acetat. plumbi ad ℔iss. et capt. elect. laxant. ʒj. ter indies.

11th.—Is in bed to-day, lying with her head and shoulders elevated. Respiration very difficult; cough, and difficult expectoration. Inflammation on her feet is rather less, but the œdema is increasing. Pulse 100, and full.

Rept. haust. anodyn. atque alia med. ut heri.

12th.—Had no sleep last night, as the cough attacks her whenever she lies down. Expectoration very copious, and she complains of a burning sensation under the sternum. Pulse 100, soft, not full, regular; heat natural. Feet much distended, with some vesications, and very painful. Legs again swelled.

App. vesicat. sterno.

Let her feet be seen by the surgeon.

13th.—Died last night.

Sectio Cadaveris.—On laying open the thorax, a considerable quantity of fluid was found effused into the cavities of the pleura, on both sides.

The lungs on both sides seemed quite healthy, and of their natural colour; but, on endeavouring to raise them up, they were found to adhere firmly to the pericardium, through its whole extent; to the diaphragm; and laterally to the pleura costalis, by membranous bands; and the lobes were firmly attached to each other, so that they could not be separated without some difficulty.

The pericardium was found adhering so firmly all round the heart, that it was with difficulty raised from it. It was very much thickened, and evidently consisted of three laminæ; the middle one being opaque, white, and dense; the outer very unequal in thickness; and the inner very vascular, red, and pulpy.

The heart itself was a good deal larger than natural, and was also thickly covered with coagulable lymph, which, owing to its being torn asunder from the pericardium, appeared very irregular on its surface. Under this lymph, about two-thirds of the thickness of the heart had been changed into a substance somewhat resembling in its appearance condensed fat; and was found in fact to contain fat, as it swam in water, melted, and stained paper with a greasy stain: the remaining third had almost lost its muscular appearance.

The columnæ carneæ in both of the ventricles were larger than natural. Ossification had just commenced in the semilunar valves, at the mouth of the aorta; but the mitral valve was thickly beset with osseous matter.

This woman was the wife of a marine on board of one of the ships then lying in Leith Roads, and was seized, when living with her husband, with rigors and fever, pain of breast and cough, and by rheumatic pains and swellings of all her joints.

She was detained on board ten days after the attack, by the tempestuous state of the weather. In the waiting-room, she attracted our attention chiefly by the hard, though œdematous swelling of her legs; but, on examination, more serious complaints appeared. She had been attacked at first with symptoms of pectoral inflammation, succeeded next day by rheumatic affections of the joints. When admitted, nothing of the latter remained except the swelling of the lower extremities, but the pectoral symptoms were still alarming. I considered it as a case of pleuritis; and, from the seat of pain, both in the sternum and between the scapulæ, as a case of *pleuritis mediastini*. Besides, as she could not lie in the horizontal position, I conjectured that the inflammation was chiefly anterior.

For these complaints, she was repeatedly bled, blistered, and purged; and, on the 17th of the month, the pain is reported to be entirely gone. But, on the evening of the 19th, she relapsed. The pain was again relieved by bleeding; but, from this date, until she was exhausted, and almost moribund, she never could lie down in bed. Indeed, nothing could be more distressing than to witness her fruitless endeavours to find out a position in which she might have some rest. My supposition at the time was, that the inflammation was over, and that effusion had taken place, not into the cavities of the thorax, but into the mediastinum, or at least that it was confined by adhesion, or otherwise, to the anterior part of the chest. I confess that pericarditis never occurred to me, as her pulse was generally full and soft, and throughout had never been unequal, except on the 29th and 31st, after the use of digitalis, nor had she ever had palpitation or syncope.

Pericarditis is indeed said to be a very obscure disease. And yet, except for my having at first taken up the erroneous notion that it was pleuritis, it was sufficiently obvious in the present instance. We had fever characterizing active inflammation, and the seat of the pain sufficiently indicated the place. Now, the only organs which could be affected there, were the pleura, mediastinum, or pericardium. The cough and expectoration, and the absence of symptoms usually enumerated as characteristic of carditis, misled me in my judgment. Rickman had not the *pulsus inequalis, palpitatio et syncope*, of Cullen; nor the constant vomiting of Darwin; nor the palpitation, faintings, quick and unequal pulse of Sauvages; nor the very intense thirst of Burserius; nor the hydrophobia of Daniel; nor the delirium of Davis. *

And yet the intensity of pain, or rather anguish, in the region of the heart, combined with the comparatively natural state of respiration during the inflammatory stage, might have directed me to the heart. Add to this, the absolute inability to lie down, the extreme jactitation, and, when it was discovered, the total want of resonance from the percussion of the sternum. Even this symptom did not undeceive me, for I had previously supposed a purulent collection to have been formed under the sternum, which was the reason of my making the trial; and its value, as a diagnostic symptom, is, I think, very apparent from this case.

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* An Inquiry into the Symptoms and Treatment of Carditis. By John Ford Davis, M. D. pp. 190. 12mo. Bath, 1808.

Our error in regard to the nature of this disease was not, however, of very great importance in this instance, as the treatment would not have been very much altered; nor probably could any treatment have been of use after she came under our care.

The symptoms in this case, which seemed to depend chiefly upon the inflammation of the pericardium, were,

1. The pain or anguish under the sternum.

2. The great jactitation and want of sleep from the commencement of the attack.

3. The total inability to lie down, and the comparative ease which the patient experienced by leaning forward.

4. The febrile state of the pulse, which could, however, be only characterized as full and soft.

The cough and expectoration I would ascribe to the inflammation of the pleura, and the effusion of water into the chest. All these contributed to the great dyspnœa which came on after the disease had subsisted for some time.

The dissection of this case presented a most striking instance of universally and violently inflamed pericardium; and I think I am warranted in considering the inflammation of the pleura in the vicinity, causing agglutination of the neighbouring lobes of the lungs, and effusion into the cavities of the chest, as an effect of the original pericarditis, in consequence of the inflammation spreading by contiguity. The pericardium, in this woman, adhered universally to the heart by a layer of coagulable lymph, without any effusion of serum. Cases of this kind are not always necessarily fatal; for, whenever we find the pericardium adhering to the heart after death, we may infer, that it is the consequence of pericarditis at some former period. This is not a very rare occurrence. I have myself seen it in a man who died apparently of asthma; and Corvisart has a chapter on the subject. * But the most remarkable circumstance in this woman's heart was its partial conversion into fatty matter. Of that I was assured, not only by its appearance, but by chemical experiments, which were perfectly conclusive as to the fact.

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* P. 28.

Corvisart * himself never saw an example of this conversion, but says, that it has been seen by some modern anatomists, although their observations have not been published. He also confesses his ignorance of the manner in which such a transformation takes place. In the present instance, we find it accompanying pericarditis, but it does not follow that it was an effect of the inflammation. It may have existed before the commencement of the fatal disease. I do not know that any connexion has ever been traced between the conversion into fat of other muscles, and preceding inflammation.

The commencing ossification of the valves, in so young a woman, is, however, an argument in favour of some state of inflammation having existed in the heart on a former occasion; and the membranous bands, causing lateral adhesions of the lungs, were evidently the effect of pectoral inflammation some time before the fatal attack.

Case III.

John Macleod, æt. 17, sailor.

January 25th.—Is affected with pain in the *right* side, on deep inspiration or on cough; which last is pretty severe, and attended by a bloody sputum. The chest feels hot, but not oppressed. Has headach, nausea, retching, and an occasional vomiting of a slimy black matter. Thirst; tongue whitish, and moist at the edges. No appetite; B. regular; no sleep; pulse 92, small and soft.

Complaints of three days duration. Sputum became bloody yesterday morning. Was immediately bled to considerable extent; and a cathartic was administered.

Appl. vesic. lateri dolenti. Hab. aq. menth. pip. ℥i. pro re nata, nausea urgente; et haust. anod. h. s.

℞ Mist. mucil. ℥vss.
Acet. scill. ʒj.
Tinct. opii amm. ʒij. M. Sumat. ℥ss. tussi urgente.

26th.—Blister rose well; breast considerably relieved; hæmoptysis diminished; pulse about 100; two stools.

Hab. haust. sal. efferv. 4ta qq. hor.
Omitt. aq. menth. Cont. alia ut antea.

27th.—Considerable pain on coughing. Pulse 120; slight headach; face flushed; expectoration copious, and at present easy; several stools; had some sleep.

℞ Aq. font. ℥iij.
Aq. cass. ℥i.
Tinct. digit. gtt. xl. M. Sumat. ℥i. sexta qq. hora.

Cont. med. ut a. Hab. decoct. furfur. ad lib.

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* P. 166.

28th.—Frequent loose stools; cough has continued severe; very little blood in the sputum; pain pretty nearly general over the left and lower parts of the breast, but not nearly so severe at present; retching at times; pulse 112, softer; face not flushed; no headach.

Cont. med. ut antea.
Appl. vesic. parti dolenti.

29th.—Side much easier; some sleep in the former part of the night; delirium towards morning; pulse about 120, rather feeble; intermitting; two stools.

Omitt. mist. cum digit. et haust. salin. Cont. alia.
Hab. emuls. camph. ℥ss. 3tia qq. hor.

30th.—A good night; cough has not been so frequent; less dyspnœa; feels no pain; thirst; pulse quick and intermittent; belly regular.

Cont. omnia ut heri.

31st.—Cough at times has been distressing; considerable dyspnœa, but no pain; only one stool; pulse quick, feeble and irregular.

Hab. ser. vinos. ℥x.
Cont. alia ut a.

February 1st.—Had a better night; still much dyspnœa, and pulse as yesterday; no stool.

Cont. ser. vinos. ad ℥xiv. et alia u. a.
Hab. pil. rhæi comp. iij.

2d.—Had a pretty good night; cough has not been very frequent. Pulse 120, feeble and irregular; continues very weak; one stool.

Cont. ser. vin. ad ℥xvi. Alia ut a.

3d.—Cough has been very frequent; dyspnœa continues; expectoration difficult; pulse 106; one natural stool; has taken the whey, but little of any other thing.

Cont. ser. vinos. Omitt. alia.
℞ Aq. cass. ℥iv.
Tinct. digit. gtt. xl. M. Sumat. ℥i. bis indies.

4th.—Is very feeble; has taken very little food; cough very distressing, and respiration laborious; two stools.

Omitt. mist. cum digital. Cont. alia.
℞ Solut. ammoniac. ℥vi.
Syrupi ℥ss.
Aq. menth. ℥ij.
Acet. scill. ʒij. M. Sumat. ℥j. 4ta qq. hor.
Hab. aq. cardiac. ℥vj.
Hab. haust. cum tinct. hyoscyam. gtt. xl.

5th.—Has had a good deal of sleep; is asleep at present; breathing easier; two stools; pulse 106.

Cont. med.

6th.—Has been much disposed to sleep since yesterday; pulse about 116, firmer and more regular; one stool; thirst; and complains much of weakness.

Cont. med.

7th.—Has been affected with pain of breast since last night; cough troublesome; sputum tinged with blood; pulse about 80, but with frequent intermissions; several stools.

Rep. haust. Omitt. alia.
Appl. vesic. quamprimum lateri.
Hab. mist. acid. sulph. ʒj. 3tia vel 4ta qq. hor.
Utatur linctu comm. more solito.

8th.—Hæmoptysis has been constant; cough troublesome; pulse very feeble; has had little or no sleep.

Hab. ser. vinos. ℥x.
Cont. alia ut a.

9th.— Died.

On opening the thorax next day, few or no adhesions were observable; nor was there any considerable effusion of serum into the sacs of the pleura. A little to the right of the sternum there extended from the lower part of the left side a dirty chocolate-coloured bag, which, on being opened, proved to be the pericardium adhering to the lungs, thickened and much distended; also containing two pounds six ounces of perfectly formed pus.

The inner side of the pericardium, and that part which is reflected over the heart, were covered with a thick coating of a substance resembling condensed curds; and in some parts to a greater depth than others.

The substance of the heart was very much paler than usual. It had no other peculiarity.

The dissection of this case showed that it was an example of pericarditis, nearly as free from complication as it can occur; and, on this account, it becomes the more valuable, as Corvisart * informs us that he is in possession of no proper case of acute pericarditis without complication. But here, while we have a very high degree of inflammation of the pericardium, both where it invests the heart itself, as its outer membrane, and where it is reflected as a loose bag around it, there was almost no affection of the neighbouring parts.

The leading symptoms were at first pain in the *right* side; certainly a very anomalous symptom; but it must be observed, that the pericardium extended to the right of the sternum; cough, with bloody expectoration; headach; nausea; retching; and occasional vomiting; pulse 92, small and soft. In the progress of the disease, the pain became general over the left and lower parts of the heart; the retching continued; the pulse became quick, feeble, and intermitting; and delirium came on. The bloody expectoration was for a short time suspended, and then increased so as to amount to haemoptysis. At first he complained of want of sleep; afterwards he slept or dozed a great deal. His cough and dyspnœa fluctuated, but increased towards the close of his life, which took place on the fifteenth day from the attack.

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* P. 6.

These cases seem to me to form a valuable addition to our knowledge of this interesting disease. In Baxter we have an example of chronic and occult carditis, without any symptom occurring to indicate the affection of the heart; while after death the effusion of coagulable lymph, both into its cavities and into the pericardium, and the change its substance had undergone, left no doubt as to this important organ having been generally affected with inflammation. In Rickman and Macleod, we have cases of acute or subacute pericarditis: the former, accompanied by effusion of coagulable lymph, would have produced, if the patient had survived, a general adhesion of the pericardium, and the latter terminating in an enormous, and necessarily fatal, effusion of pus. The symptoms during life were no less different than the appearances after death; but any attempt to connect the one with the other would be premature.

IX.

Case of Inguinal and Popliteal Aneurism, cured by tying the External Iliac Artery. By William Newbigging Esq., President of the Royal College of Surgeons, Edinburgh.

While in attendance upon A. B. in August 1814, for sciatica of the *left* lower extremity, which confined him to bed, he remarked to me one morning that the disease was surely of a severe nature, as it had excited swelling in the groin. On turning down the bed-clothes, I found a tumour seated in the *right* groin, which pulsated strongly. This tumour had every character of aneurism.

In tracing the large vessels in their course through the limbs, I was surprised to find another aneurism existing in the ham of the same limb; but there did not appear to me, at that time, evidence of any other of the blood-vessels being similarly affected.

The tumour in the groin was about the size of a walnut; circumscribed; without pain; and the pulsations in it were strong, and corresponded with those of the artery at the wrist. Its upper part occupied the crural arch.

This tumour was first observed by the patient about five or six weeks before, but was not considered to be of any consequence.

The swelling in the ham was somewhat larger, but, in every other respect, resembled that in the groin, and was not discovered by the patient till I pointed it out to him.

The patient was about 30 years of age, five feet five inches high, well made, but laboured under considerable irritability of the vascular system. He had complained of the sciatica for a considerable time, which for four or five weeks had been so severe as to confine him much to bed. His pulse was never under 100. Skin was warm; he had some thirst; appetite was impaired; B. slow. He was prevented from sleeping by the pain of the sciatica.

Friction with stimulating liniments; blisters; opiates; occasional laxatives, and a mercurial alterative course, were employed to remove the sciatica, with no very marked benefit, though the complaint afterwards became less severe.

After the discovery of the aneurisms, a strict attention to the antiphlogistic regimen was recommended; and the patient was particularly enjoined to keep in bed, and to avoid animal food and other stimulating substances.

In January 1815, the tumour in the groin had made very little if any progress; but that in the ham had evidently, though slightly, increased. At this time I applied a roller moderately tight from the toes to the groin, over compresses laid upon each of the tumours. About the same time it was observed, that the pulsations of the abdominal aorta, and of the left external iliac artery, were stronger than natural, which gave rise to doubt respecting the sound state of these vessels.

In February, the tumour in the ham became larger and painful, with increase of heat.

The use of the roller was desisted from, and a solution of the acetite of lead was applied with some effect in allaying the heat and pain. His general health, which had not improved, became now rather more affected, and he continued to be more or less distressed by the sciatica.

Though the aneurism in the groin appeared to be stationary, yet that in the ham was now progressive in its increase, had acquired a large size, and the skin began to be smooth and shining on its surface, and the heat and pain to be considerable, In this state of circumstances, it was agreed, in consultation with my friends, Messrs Andrew and William Wood, Mr Law, Professor Thomson, Dr Gordon, and Mr Turner, that the operation of tying the external iliac artery should be had recourse to.

On the last day of February, I accordingly met these gentlemen at the patient's house to perform the operation, when, on examining the ham, we found, to our surprise, that the pulsation had stopped. The patient, who was aware of this, had remarked, that the cessation followed a particular uneasiness and pain in the tumour during the night. It was therefore deemed proper to postpone the operation, in the hope that a spontaneous cure of the popliteal aneurism might possibly take place.* The pulsation, however, after having been absent about two days, returned, but continued less strong than it had been before.

The swelling in the ham now became larger; the heat and pain increased, with great tension of the skin, which had a slightly livid appearance. There was starting of the limb, and a sensation as if some burning hot liquor had been poured upon the leg. Pulse rose to 120, and other febrile symptoms were present. He was bled to 10 ounces without relief.

On the 13th of March I performed the operation in the presence of the above named gentlemen. I began by making an incision parallel to the linea alba, through the skin, of three inches in length, about an inch and a half from the anterior and superior spinous process of the os ilium, and extending to within half an inch of the inguinal tumour. I then divided the tendon of the external oblique, cut through the internal oblique, and across the fibres of the transversalis muscles of the abdomen, in the direction of the external wound. With my fingers I cautiously separated the peritonæum from the subjacent parts, until I felt the artery distinctly; and I detached it from the surrounding substance with my fingers for about half an inch, and then passed a ligature under the vessel by means of an eyed hook. Immediately on tying the ligature, the pulsation entirely ceased in the popliteal tumour. The strong pulsation, too, was instantly stopped in the tumour in the groin; it became softer and more compressible; and, although a feeble beating could still be perceived in it, there seemed no doubt that this depended upon anastomozing vessels. Very little blood was lost. The wound was closed by two stitches, and adhesive plaster applied between them. These were covered by a pledget of simple ointment, and the patient was replaced in bed.

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* In this expectation I was the more sanguine, as two cases had occurred in Edinburgh a short time before, in both of which a spontaneous cure took place: the one a case of Popliteal Aneurism, under the care of Messrs A. and W. Wood, which I saw along with them; and the other, a case of Femoral Aneurism, under the care of Mr Caird, which was seen by Professor Thomson and Mr Turner,

He behaved with uncommon firmness and composure during the operation, but seemed much fatigued by it. He felt at times, during the operation, severe pain stretching from the wound to the thorax.

Hora 8va, P. M.—Pulse 140, neither full nor strong; skin cool and soft; tongue clean and moist; no thirst. He has pain in the wound, stretching to the thorax, impeding free respiration and the discharge of the urine. No general pain of the belly, and he can bear it to be pressed without any uneasiness being excited. Slight oozing of blood under the dressings. The pain in the ham ceased about three or four hours after the operation. The limb remained cold and numb for several hours after; but warmth was applied, and the heat of it is now nearly natural, and the numbness almost gone. Some starting of the limb. Little sleep.

14th.—Hora 8va, A. M.—Puls e126, soft; skin cool; sensation of cold and numbness of limb almost entirely gone, and its temperature seems natural. Pain of wound abated; breathing easy; urine voided freely; tumour in the ham free from pulsation, and less tense; that in the groin little changed, and the beating in it still felt but faintly; serous oozing from the wound.

Hora 8va, P. M.—Continues easy. Pulse 120; skin cool; tongue clean and moist; some thirst through the day, and slight perspiration; is distressed with sciatica.

15th.—Hora 11ma, A. M.—Took 25 grains of the pil. opiat. at two doses last evening, and spent an easy night, with some sleep. Pain of sciatica gone; pulse, which was at 110 this morning, is now at 116.

Pulsation is more perceptible in the inguinal tumour, but none in the popliteal; the last still less tense. Heat of the limb natural.

Ten grains of the pil. aloet. taken this morning.

Hora 8va, P. M.—Pulse 144; skin rather hot and dry; tongue whitish; no stool. Has taken two tea-spoonfuls of artificial Cheltenham salt.

16th.—Hora 11ma, A.M.—Other two tea-spoonfuls of the salt were given last night, one at nine and the other at twelve. Has had frequent stools since, with gripes and flatulency; no sleep; pulse at eight this morning 132, now 124; skin cool and soft; tongue clean and moist; slight thirst; appetite tolerable; takes a basin of tea night and morning, and about half a pint of panada at dinner.

Pulsation of inguinal tumour more distinct; but it continues, notwithstanding of compression being made upon the course of the iliac artery, above the tumour. Tumour in the ham evidently smaller, and free from pulsation. Skin over its surface slightly wrinkled. Slight œdema of this foot. Wound dressed, and looks well. Took ten grains of pil. opiat. at four this morning, on account of gripes.

18th.—Purging ceased on the 16th, and he has continued easy since, except the pain of the sciatica, which was allayed by ten grains of pilula opiata on the evening of the 16th. Pulse from 100 to 110; tolerable nights.

Popliteal tumour diminishing; œdema of foot continues; matter from the wound good.

20th.—Has been much distressed since last report by the sciatic pain, and has slept ill, on account of which he has taken ten grains of the pil. op. two or three times a day. Pulse 112; skin cool; tongue clean; a copious stool last night from an injection; edges of the wound do not adhere, though it appears clean; the lower stitch cut out; has had his shirt and flannel vest changed.

21st.—Had sensation of cold, and tendency to shivering yesterday after changing his linen, followed by heat and sweating in the evening, when the pulse was at 150; has had a good night, however, and to-day the pulse is at 110, soft, and of good strength.

23d.—Had a tendency to rigor yesterday, which was checked by thirty drops of laudanum; pulse to-day 116; skin soft; tongue clean; no tendency in the wound to adhere, and it appears flabby; discharge pretty copious, and viscid; one copious stool by injection on the 21st. Sciatica still distressing, but it is relieved by taking thirty drops of laudanum, which he does two or three times in 24 hours. Popliteal tumour continues to diminish, and the natural furrows of the skin are now evident upon its surface; inguinal tumour appears somewhat diminished, and the pulsation continues. To have rice and milk to dinner, and a pound of wine-whey in the day.

25th.—No return of rigor; wound appears less soft, and discharge is more purulent; granulations appear at the upper part of the wound, around the ligature; one copious stool on the 23d by injection; pulse 96; skin soft, sometimes covered by sweat; tongue clean; relishes his food and wine-whey; sciatica continues to distress him, but is always relieved by the laudanum.

28th.—One stool by injection last night; some griping and tenesmus since; pulse more frequent; wound as last reported. Wine-whey stopped. To take a dose of castor oil.

29th.—Four copious stools. Gripes gone. A good night, though the sleep is sometimes interrupted by the sciatica. Pulse 96; skin cool and soft; tongue clean; appetite good; feels, as he says, 'strong and comfortable;' discharge from the wound good, but copious; a sinus extends along the flank. Wound dressed twice a day, and a compress laid over the sinus, and retained by adhesive plaster.

To have chicken broth to dinner.

30th.—Ligature came away to-day; wound clean, but soft; and discharge copious, and rather thin.

April 1st.—Continues easy. Pulse nearly natural, though rather feeble; wound as last reported.

To have four or five glasses of claret daily, and some boiled chicken to dinner.

After this time the strength and appetite gradually improved; and the healing of the wound was progressive, though slow, as it did not close till the month of June.

The tumour in the groin has disappeared; only a small knot remains in its site. The circulation through the common femoral artery can be distinctly traced by the pulsation, and can be followed along the circumflex iliac artery. No pulsation can be felt in any part of the superficial femoral artery.

All that remains of the popliteal tumour is a degree of general fulness along the ham, in which pulsation has been felt for about two months, but, notwithstanding of which, the fulness is gradually diminishing. The patient can use the limb with considerable freedom, but there is still a degree of stiffness of the knee joint, and some inability to put his heel to the ground in walking; but these are sensibly abating.

The muscles of the left limb have been considerably weakened, particularly those which are employed in the motion of the foot; but they are evidently recovering their power. In this limb he still experiences at times some degree of sciatic pain. His general health is perfectly good.

Professor Thomson had the goodness to continue to visit the patient daily for some weeks after the operation; a kindness which I owed not less to his friendship than to the interest which he takes in whatever relates to the science of surgery.

Edinburgh, 18, *St Andrew's Square*,
December 12, 1815.

THE INQUIRER. No. XXV.

Medical Fragments.

In what does the affection termed lumbago consist? Is it inflammatory, spasmodic, gouty, or rheumatic? It is sudden in its invasion and in its departure. The pain seems as if confined to a small spot, such as the centre of one of the lumbar vertebræ. The pain is excruciating on motion, but ceases almost entirely on rest. The affection is unattended with any pyrexia or general febrile condition. It disappears for a series of months, even years, and then makes its appearance in a moment, without the least previous warning. What is the bone or joint, ligament, muscle, or set of muscles, particularly concerned in it? A particular state of the weather seems to favour its attack. This is probably a raw damp cold state of the air, such as prevails during easterly winds with sleet, or during an east wind that produces a thaw.

QUERY.—As the means of establishing a drain in diſeases of the spine and hip joint, has corrosive sublimate in powder ever been tried, or would it be advisable to try it in the manner pointed out by Mr Robertson of Kelso, in the 20th Number of this Journal? The present writer accomplished a perfect cure of a white swelling of the knee-joint, in the person of a young woman whose case was abandoned as hopeless, and no other resource than amputation supposed to be left. The irritation produced is considerable, and in some degree perhaps peculiar: the discharge is most copious and long continued, and apparently of a quality and consistence very different from that produced by common caustics.

Mr Bryce's excellent Observations on the Fœtal Liver lead directly to the important practical deduction, which has been elsewhere insisted on in this Journal, that the floating of the lungs of a new-born infant, where no putridity exists, proves incontestably the fact of the infant having breathed. His expression of 'the permanent dilatation of the lungs' is happily chosen. Indeed his whole hypothesis is plausible and satisfactory. On the subject of infanticide, it may be remarked, that, though the child has breathed, the presumption is perhaps not a strong one, in any case, that the mother has murdered it. In the first place, the maternal tie has been wisely implanted by the Creator, as the strongest bond in human nature. It is not only maintained sacred, but is augmented under every circumstance of difficulty and distress. The presumption is consequently against, rather than in favour of the breach of this tie; and consequently a female has not only the benefit of the general maxim in law, of being held innocent until proved guilty, but there is this additional plea, arising out of the most irresistible feelings and sympathies of the human heart. Secondly, ignorance, agitation, and terror, may often be the means of occasioning the death of the new-born infant, without the least intention on the part of the mother to take away its life; though the dread of exposure may have induced her to conceal her shame to the latest moment. Instances must be familiar to accoucheurs of the birth of a living breathing child, where, from some untoward circumstance in the delivery, such as pressure in the passages, temporary strangulation by the umbilical cord and the like, the circulation of the blood has been so obstructed in the child as to produce congestion in some important organ; or the circulation between the mother and the fœtus has been so interrupted as to bring the life of the infant into danger that could only be averted by the skill and promptitude of the accoucheur. Now, such an occurrence taking place where a young, ignorant, and inexperienced female delivers herself, without any assistance, and under the pressure of the most incapacitating circumstances, may cause the death of the child after it has breathed, and the 'permanent dilatation of the lungs' has been affected, without any design of the unfortunate mother, either premeditated or momentary, to destroy the fruit of her womb. She may have flattered herself with the hope of exposing it, which, though itself a horrible crime, is, in the eye of reason, humanity, and law, incomparably less heincus than murder. Or, probably, finding concealment to be no longer practicable after the offspring of illicit passion has seen the light, maternal affection may have asserted its paramount claims, and determined her to brave the sneers and contempt of an unpitying world, at a moment when a fatal accident, such as has just been contemplated, may have prevented her. When that has actually happened, and when she perceives she can no longer preserve her offspring, then indeed concealment is the impulse of frail human nature; and, though a crime which no reasoning or sophistry can pardon, much may be said in palliation of it. It is needless here to point out the danger that may arise from unskilfulness in tying and cutting the umbilical cord, as it must be evident to every one. That the law, in its spirit and exercise, though not in its letter, leans to some merciful construction of the kind which has now been hinted at, is sufficiently evident from the practice of our courts of justice, both in England and Scotland; infanticide in either country being now seldom punished with death. The subject is altogether deserving of the most serious consideration; and every one is interested in having it, if possible, unequivocally determined.

August 1815. X. Y.

QUERY.—Is the floating of the lungs of a child recently born, and free from putrefaction, a sufficient proof that it has respired? *Vide* Edinburgh Medical and Surgical Journal, Vol. XI. p. 80.

Difference of opinion on any subject will ever be productive of benefit, by tending to lead to unprejudiced and careful investigation. In offering the following remarks to your notice, I do so with the hope that some one (having greater opportunity than myself) may be induced to give such attention to an investigation, as the importance of the question demands;—a question certainly of considerable magnitude, in as much as the life of an individual is at stake, and one upon which every practitioner may be called upon to give his opinion.

The floating or sinking of the fœtal lungs appears to be a circumstance likely to guide the opinion, and consequently the verdict of the jury. The lungs of the fœtus before birth sink in water, containing no air. Their substance is redder than in a child that has breathed. Morbid and other circumstances may, however, occur, which (in my opinion) will make exceptions to these general rules, and thereby cause the floating test to be considered an uncertain one.

1*st*, Of the sinking of the lungs. Suppose we take a piece of the lungs, and throw it into water; it may sink, and yet the child may have been born alive, particularly if it is taken from a depending part. So it may happen if the lungs have been inflamed; a piece of inflamed lungs will sink immediately, like a piece of liver.

2*d*, Of the floating of the lungs. Suppose a woman to be delivered of a dead child, should she blow into its mouth and lungs, under an idea of bringing her child to life, the same appearance will take place as if the child had been born alive, viz. the lungs will assume a florid colour, and, containing air, will swim in water. When air has once entered, it always remains in some quantity. Thus an innocent mother might unintentionally be the cause of her own condemnation. In either case we may be deceived.

Carlisle, June 16, 1815. E. B. FLETCHER.

Note by the Editor.

We feel obliged to our intelligent correspondent for his remarks, as they give us an opportunity of replying to both his objections.

Unquestionably a piece of inflamed lungs will sink in water, like a piece of liver; but we doubt that such inflammation was ever observed in the lungs of a new-born infant, concerning which a question of its having been still-born could arise; and we deny the fact, that any portion of lungs which have breathed will ever be rendered specifically heavier than water, by the mere settling of the blood in the lower portions after death.

With regard to the second objection, we may observe, that the possibility of inflating the lungs of still-born children is denied by some able physiologists, but is established by others. Supposing the attempt to have succeeded perfectly, which it scarcely ever does, still it will neither produce that influx of blood into the lungs which is the necessary effect of respiration, nor alter the colour of the blood in the lungs. The absolute weight of the lungs of a ripe infant are about doubled by the act of respiration. In a still born infant they are about 1-70th of the weight of the whole body, in one which has breathed 1-35th. The colour of the lungs of a ripe still-born infant is very dark red, almost brown, and by artificial inflation they become of a bright and sometimes of a dull cinnabar red; the lungs of an infant which has breathed are of a clear pale red. If the inflation has only succeeded imperfectly, the differences are still greater. The thorax remains compressed and flat, and the diaphragm strongly arched; the lungs are but partially distended, and do not fill the thorax, or cover the heart; they do not crackle when divided, the air may be in a great measure pressed out of them, and portions of them sink in water.

Most of the objections to the hydrostatic proof are founded in an erroneous view of it. Reliance is only to be placed on it in cases to which it is adapted; and it is not intended to supersede, but to be combined with, other modes of proof. It presupposes the lungs to be healthy, and tolerably free from putrefaction, and that the trial is performed with due circumspection.

A vessel at least a foot deep, and of a sufficient size, is to be provided, and filled with soft water, of 40° to 60° Fahr. After opening the thorax, the trachea is to be tied at its division, and cut through above the ligature. Next, all the large blood-vessels are to be tied, both cavæ, the aorta below its arch, the pulmonary arteries and veins. The whole contents of the thorax, lungs, heart, and thymus gland, are then to be taken out in connexion, cleaned, and laid gently upon the surface of the water. The experiment is then to be repeated, after the heart and thymus have been removed, upon the lungs connected and separated, and cut in pieces:—their swimming or sinking entirely or partially, will commonly lead to positive conclusions.

PART II.

CRITICAL ANALYSIS.

I.

The History of the Small-Pox. By JAMES MOORE, Member of the Royal College of Surgeons in London, Surgeon of the Second Regiment of Life-Guards, and Director of the National Vaccine Establishment. 8vo, pp. 312. Longman & Co. London, 1815.

THIS is a curious and a very amusing volume;—a sort of commendation, by the way, which we have not often occasion to bestow upon the subjects of our critical examination in this Journal. Mirth and medicine, indeed, are not very necessarily combined; but the author would have degenerated, and been unworthy of his name and parentage, if he had given us nothing, in such a history, but a sombre detail of pestilence and physic. His little work (little in point of size, but not in point of labour), bears internal evidence of extensive and varied research, in the minute details of medical biography, and the curious historical anecdotes, with which it abounds, and which are pointed by not a little shrewd criticism, medical, moral, and political, and by a considerable portion of satirical humour. The work is dedicated to Dr Jenner, and is said to have been composed, together with a history of cow-pox, hereafter to appear, with the view of aiding that enlightened benefactor of mankind in the extermination of the variolous pestilence, by convincing the public of the baneful effects of the one and the benign influence of the other, by thus contrasting their portraits. The opposition which vaccination has experienced renders such aid, he avers, necessary; 'for,' as he quaintly expresses it, 'among the practitioners of the healing arts, Hygeia found enemies; and Disease and Death, friends.'

In the first chapter, he treats briefly of 'various opinions on the origin of the small-pox,' and settles very expeditiously the question of the existence of the disease in the time of the Greeks and Romans, which he determines in the negative, principally upon the score of the accuracy of those writers in describing diseases with which we are still familiar, and of the impossibility of supposing them capable of overlooking the striking characteristics of small-pox, which were so minutely described by far inferior writers, the Arabians. We shall not set up any formal defence of the opposite doctrine, in favour of which, however, we think there are many circumstances of considerable weight; and we should have been glad if the author had not presumed upon the refutation by other writers, but had attempted to satisfy us himself. With all due veneration for the ancients, at least of that small number who were original observers, we think those sweeping assertions of their unvarying accuracy in the diagnosis of discases, which preclude all idea of their having seen a formidable disease, without distinguishing it from all similar maladies, are the effusions of pedantry, and not justified by actual observation, or by the history of medicine. Have not these writers generally classed all violent and fatal diseases under the term *pestilential?* Have they anywhere given any thing like such an account of the common plague, as an ordinary ship's-surgeon would now give us from the Mediterranean? It appears, indeed, that they were generally too much afraid of encountering pestilence, to be able to give us very accurate histories of the symptoms, and too often fled from the cities where it prevailed. They were also blinded, long before the time of Galen, by their hypotheses of the humours, and were content to determine whether an ulceration or eruption was the discharge of a bilious or phlegmatic humour, without attending to the history of symptoms. We must acknowledge, that the chapter, which Aëtius has preserved from the works of Herodotus, a Roman physician (which are unfortunately lost), appears to us a body of positive evidence, which strongly opposes all such negative evidence, as the mere silence of other writers from Galen to Actuarius. Mr Moore notices this singular chapter very slightly, by naming it only in the margin: We think it merited more of his attention; and that it is impossible to settle the question without a thorough explanation of it. There is nowhere, perhaps, a more distinct statement of nettle-rash,—of the little herpetic eruption about the mouth and alæ nasi at the decline of slight fevers,—of the *petechiæ* in fevers of a more typhoid character, 'à pravis humoribus,'—and of the ulceration and carbuncles of '*malignant* and *pestilential*' fevers, than in this chapter; and at the same time the symptoms of small-pox appear to be mentioned with no small accuracy, and many of the prognostics and diagnostics pointed out.[*] What other eruptions, 'the most malignant when ulcerating the face, and when most numerous rather than when few,' &c. accompany pestilential fevers, save small-pox? But yet so much under the influence of prevailing hypotheses was this discriminating writer, that he considers all these eruptions only as 'signs of an abundance of corrupt humour, corroding the body.' It is some impeachment of the accuracy of the other Greek writers at Rome, after Herodotus, that they have omitted to describe distinctly those eruptive fevers with which he was obviously familiar. There is some reason for supposing that the great pestilence at Athens, the effects of which have been so well described by Thucydides, was small-pox. It was obviously not *the plague*; (for neither buboes nor carbuncles are mentioned); but a disease in which the skin was extensively affected, being 'red or livid, with *an eruption of small pustules and ulcerations.*'[†] It might, indeed, have been that epidemic, of which we happily know little in modern times, and which was the frequent result of famine, so admirably described by Lucretius under the appellation of 'Ignis sacer.'[‡] But the very obscurity of these accounts is a proof, that neither physicians nor philosophers were very accurate in their discrimination of the various species of pestilential fevers, all of which they deemed but modifications of the same thing; and it renders every inference from their silence on any particular pestilence nugatory.

Having settled the dispute respecting the ancients, Mr Moore refutes very satisfactorily the statement of Dr Paulet respecting an epidemic in France in 580, of which Queen Anstrigild, wife of Guntram king of Burgundy, and the two sons of Chilperic and 'the dreadful Fredegonde,' died. This was called *variola*, and affords the first instance, he says, of the use of this word. But upon the authority of Gregory of Tours and of the Herman chronicle, Mr Moore shows that this epidemic was the common plague, conjoined with dysentery. The story of the princess Fredegonde has nothing to do with the author's history; but it is too good a story not to be told; as it would have produced from Shakespeare 'a drama, equal to that of Lady Macbeth;' and it occupies three or four pages in Latin and English, and affords scope for one or two satirical squibs. His next source of authority was that ponderous collection of lies and absurdity, the Lives of the Saints, compiled in about forty folio volumes, (which constitute but three-fourths of the intended work) by the Bollandists. As these lucubrations relate the proceedings of the early Christians, who were much concerned in attending the sick, it might be expected that they would afford some information respecting the prevalent diseases, at a period not much later than the era of Galen and his successors, or at least some centuries before that of the Arabians. We have heard, indeed, that the late Dr Willan believed that he discovered in this work, some evidence of the existence of small-pox in the second and third centuries: but Mr Moore does not appear to have found at least the word *variola*, before the thirteenth century. He admits, however, that he did not labour much in the perusal of this ponderous work; and surely the non-occurrence of the term, by which this disease has been designated in modern times, is no proof whatever of the non-existence of the malady, which might have been described, among other severe maladies, before any specific name was assigned to it. But while he contends that there is no evidence of the prevalence of small-pox in Europe so early as the sixth century, the author believes, that the opposite opinion, adopted by Mead, Dimsdale, and others, that it was not introduced till the return of the crusaders, about the end of the eleventh or beginning of the twelfth century, is equally erroneous.

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[*] See Aëtius, Tetrab. II. Serm. I. cap. 129.

[†] Φλυκταίναις μικραῖς καὶ ἕλκεσιν ἐξηνθηκός. Thucyd. Lib. VI. § 49.

[‡] Lib. VI.

In chapter II. he proceeds to trace the earliest accounts of the disease in Asia and Africa, whence it is commonly believed to have been imported to the western kingdoms; and begins with the records of China, one of the earliest inhabited countries in the world. For our knowledge of these, we are indebted to the Catholic missionaries, who, by their address and influence, gained access to these documents. Mr Moore details some evidence from the works of the missionaries, extracted from authentic Chinese publications, from which it appears, that not only the small-pox, but even some modes of inoculation, were familiarly known at a very remote period, probably long before the commencement of the Christian era. At the end of the seventh century, it is mentioned familiarly as an epidemic, in the chronicles of Japan, among the ordinary incidents of the time. And in Hindostan, 'according to the traditions of the Bramins, the small-pox is of immense antiquity. It has several names in the ancient Sanscrit language; and its very early existence in that country is proved by their sacred books, and by the mythology of the Hindus.' The author collects from M. Sonnerat, the genealogy and attributes of the goddess who presided over the small-pox, and relates also another account of the same deity from Baldæus. The existence of this superstition, and of various idols, as well as the practice of inoculation among the Bramins from very ancient times, prove the antiquity of the disease in India: and from a collection of original Hindoo drawings, Mr Moore has engraven a representation of a procession, exhibiting the actions and attributes of this terrible goddess. These religious rites, Mr Moore observes, are decisive proofs of the dread in which small-pox was held, when human power was deemed inadequate to resist the calamity; and travellers in later times have been struck with the dreadful alarm which its occurrence excites in China, India, Tartary, &c. In the latter country and Thibet, it is deemed a plague; and the patients are not only left to chance, but shut up from all communication. These circumstances, and the want of free communication in those countries, are considered by Mr Moore as affording an explanation of the non-extension of the disease to Persia and Greece, long before the time of Hippocrates; and he attempts to account for the non-importation of the infection by the armies of Darius and of Alexander, in their respective invasions of India, by the long time which elapsed in so distant a warfare, the numbers of men who perished, and the extent of the deserts which were recrossed, which would give time to purify the troops from infection. Something like the small-pox, indeed, seems to have occurred near the mouth of the Indus, before the embarkation of Nearchus, according to the account of Quintus Curtius; but it is probable, as the author suggests, that the sick would not survive the hardships which the army was obliged to endure. Mr Moore then briefly traces the progress of ancient commerce with India, and shows that the length of the voyage, as well as of the overland journey, was too long to admit of a probable communication of small-pox, even after Hyppolus had shortened the course, by trusting to the western monsoon, and stretching across the Erithrean sea, without compass, from the mouth of the Arabian gulf to Musiris. Even this was a voyage of a year. But towards the close of the sixth century, the spirit of commerce spread among the Persians, who brought from India the commodities which were wanted in the west; for their vicinity to India gave them great advantages over the Egyptian merchants.—

'But,' the author adds, 'it also augmented the danger of transporting the variolous contagion. Indeed, whatever attention might have been paid by the commanders of these merchant-vessels, it was impossible that this calamity should have been avoided much longer; and as ships coming from India, both in their passage to the Persian Gulf, and to the Red Sea, frequently touched at the Arabian ports, that country was peculiarly exposed, and there accordingly it was first observed.' p. 45.

In Chapter III. then, we are informed how 'the small-pox appears in Arabia, and follows the track of the Saracens.' In the year 569, the celebrated religious war, called the war of the Elephant, occurred, in which Mecca is related to have been preserved by a miraculous destruction of the invading army, by a flight of supernatural birds, which killed the Abyssinians by dropping small stones like peas upon their heads. Mr Moore has adduced some documents, which tend to prove that the small-pox and measles first appeared in Arabia in that year, at the siege of Mecca, and that the two species of supernatural birds were but fabulous representations of these two diseases; a suggestion which was made by Mr Bruce, after examining some Abyssinian records. The place and period of the origin of these diseases was but too favourable to their dissemination. They were accordingly soon known at Alexandria, where the first treatise on the small-pox was written by Ahron, (according to the testimony of Rhases), who lived there during the life of Mahomet. This enthusiast, it is well known, was born in the same year in which Mecca was besieged; and he and his successors contributed most fatally to the extension of pestilence, even to the shores of the Atlantic. This account accords with the researches of Dr Woodville on the same subject. The latter considered the disease, indeed, to have been carried to Alexandria in 638 by the Arabians, and to have been altogether unknown there before the siege of that city. This he infers from the silence of Paul of Ægina, (who was a contemporary of Ahron at Alexandria), respecting the small-pox, although this writer affirms that he had omitted no disease then known. Mr Moore attempts to explain this, by supposing that the work of Paul had been written before his settlement at Alexandria; which he thinks is probable, from its being little more than a compendium of Galen and Oribasius, and from this author being placed by Hali Abbas as the last of the ancients, while Ahron is called the first of the moderns; the epoch of the Hegyra, A. D. 622, being assumed by Hali as the boundary. May not his Greek education have somewhat warped his observation, and induced him to confound the disease with other pestilential maladies? It would seem, as Dr Woodville remarks, that Ahron did not describe the small-pox as a *new* disease, since Rhases strenuously contends that the disease was known to Galen, and he was perfectly familiar with Ahron's works.

At all events the small-pox, which was first distinctly described by the Arabian physicians, henceforth became the subject of much attention among that restless people, and attacked even their monarchs; for three of the early Caliphs were described as pitted with the small-pox, and one fell a victim to the disease. Many of the Arabians, in the periods subsequent to the Hegyra, wrote at length upon the small-pox and measles, which they carried, in the course of their conquests, not only through Persia, Syria, and Egypt, but eastward along the African coast of the Mediterranean, and ultimately into Europe. Mr Moore concludes this chapter by some amusing anecdotes, well related, though not very novel, relating to the general history of medicine, rather than to that of small-pox.

In Chapter IV. he describes the 'diffusion of small-pox through Europe and America,' from the beginning of the eighth down to the eighteenth century. He informs us, in his waggish way, that the introduction of this pestilence, as well as the downfall of the Gothic monarchy, in Spain, was 'owing to a rape committed by a king, and to the vengeance of a beautiful woman;' which he illustrates by giving a laconic sketch of the invasion of the Moors, in 710, who established the Koran and the small-pox in that country. From the sterile chronicles of the monks, the only historians of those dark times, little direct evidence, however, is to be obtained of the actual progress of this disease. Military and religious events chiefly occupied their attention, and almost the only disease, which they mention, is *the plague*. But the author here justly observes, that 'that word had however a much more extensive signification, than it has since; and was applied *then* to *every dangerous epidemic:*' He adds, in the next page, 'but it is quite certain that the small-pox was in those days included among the pestilences. For in the first translations of the work of Rhases, the small-pox is termed *Pestis;* and Constantinus Africanus, as well as many of the early medical writers, class it with pestilential fevers.' And again, 'the small-pox being included in the term pestilence, explains satisfactorily why it is not named by the older writers; and also accounts for the very frequent occurrence of the plague in early times.' He is hence convinced that some of the epidemics, called the plague, which is said to have visited France eleven times in the ninth, and six or seven times in the tenth century, 'were unquestionably the small-pox and measles;' and he is likewise of opinion that the pestilence of the *holy fire*, so terrible and fatal, and so often epidemic, must have been in many instances small-pox or measles.

That this was really the case, there is very little reason to doubt. But surely the same inference is as applicable to the more ancient, as to these later periods of time. And if physicians late in the eleventh century, when the Arabian learning was well known, and especially if such a physician as Constantine, deeply versed in oriental literature, and who had in fact spent thirty years at Bagdad and Babylon, before he settled at Salernum, in the very cradle of the small-pox (according to this doctrine), should still persist in classing this remarkable disease, with the plague, ignis sacer, scarlet-fever, &c. under the common appellation of pestilence;—is it surprising, that the earlier physicians, to whom the distiction had not been made manifest, and who have done little more than echo the doctrines of Galen, or that that voluminous theorist himself, who was blinded by his bile and phlegm, should confound them altogether? We know well with what difficulty the human mind throws off the trammels of habit and early instruction. It is scarcely more than a century since the measles and small-pox were allowed to be distinct diseases, and not so long since the chicken-pox was distinguished from the latter; and half a century has not elapsed since the scarlet-fever and malignant sore-throat were identified, and since this fever was denominated 'putrid measles.'—It seems just as probable that the pestilences of Thucydides and Lucretius were small-pox, as any of those epidemics of the ninth and tenth centuries, to which the author has alluded. It is probable, however, that the *holy fire* was a distinct epidemic, differing from small-pox and erysipelas, and resulting from famine, and therefore less common in our times; but it appears to have occurred at a later period, in different parts of the Continent, where it has commonly been ascribed, not to want of nourishment, but to depraved and noxious food, and has received different appellations accordingly. Thus, in France, it was called *Ergot*, being attributed to diseased rye; in Sweden, *Raphania*, from its supposed origin from eating the Raphanus; and in Germany, *der kriebel Krankheit.* It seems to be a modification of scurvy, and terminates in a dry gangrene.

Believing the small-pox to have been born with Mahomet, at Mecca, in the year 638 or 640, or at least to have first appeared at that time in the west, Mr Moore has some difficulty in crediting an account, which Dr O'Connor has quoted from some ancient annals of Ulster; namely, that in 679 the small-pox (which is called *Bolgach*) was epidemic in Ireland, and again in the early part of the following (eighth) century; a circumstance which is not easily reconciled with the notion that the Moors were the carriers of the disease into Europe above 30 years afterwards. In England, Dr Short asserts, that in 907, the Princess Elfrida, probably a daughter of Alfred, was ill of the small-pox, but recovered; and in 961, Prince Baldwin of Flanders, her grandson, died of a disease, according to the Bertinian Chronicle, 'which physicians called *variola* or *pocca.*' This Mr Moore believes to be the earliest authentic use of these words. And he thinks it '*rather odd*, that the earliest cases of small-pox in Europe, should be those of a British princess and a Flemish prince; as before that disease had reached Flanders, it must have traversed all the intermediate countries from the Mediterranean; and it must have existed some time in the north, before it acquired a Saxon name.' (p. 90.) This concluding remark proves that no such oddity here existed: the diseases of princes are likely to be the first that are recorded by historians. But the very fact that the contagion had reached these royal courts, demonstrates, not less satisfactorily than the use of a vernacular name, the previous extensive prevalence of the disease among the people.

This chapter is concluded by some curious medical and historical anecdotes, collected from the saints, and by some statements in refutation of the assertions of Dr Mead, Baron Dimsdale, and others, that the small-pox was brought into Europe by the returning crusaders; since, in fact, it reached Europe two centuries before the return from these frantic expeditions. In the thirteenth and fourteenth centuries, Mr Moore finds the disease mentioned in the Lives of the Saints, as well as the blindness produced by it, the curing of which is often stated among the miracles which they performed. And he concludes by observing, that as in all human affairs good and evil are intermingled, so the invention of the compass, and the discoveries of Columbus, occasioned scenes of misery that never were surpassed; and, among others, the extension of small-pox and measles to another hemisphere. He traces them to St Domingo in 1517, to Cuba in 1520, and afterwards to Mexico, where in a very short time they destroyed three millions and a half of people. In Iceland and Greenland, the diseases have appeared more lately, but scarcely less fatally. He then sums up these results of his inquiries.

> 'It may be concluded, from the foregoing historical sketch, that the small-pox and measles had prevailed in China and Hindoostan from remote antiquity, probably upwards of three thousand years; yet had not extended to the more western nations until the middle of the sixth century. About this latter period the above maladies reach-

ed the southern coast of Arabia, by vessels trading with India, and broke out near Mecca, during the war of the Elephant, in the year 569, immediately before the birth of Mahomet.

'During the latter part of the sixth, and the whole of the seventh centuries, they were spread, by the Arabians, over the remaining countries of Asia, and all that part of Africa which is washed by the Mediterranean sea. In the eighth century Europe was contaminated, in consequence of the Saracens invading Spain, Sicily, Italy, and France; and the above diseases gradually extended to the north. They had certainly reached Saxony, Switzerland, and England in the tenth, and probably in the ninth centuries. And lastly, in the beginning of the sixteenth century, twelve years after the death of Columbus, the infections were transported by the Spaniards to Hispaniola, and soon after to Mexico, and diffused speedily over that hemisphere also.' p. 110.

In Chapter V. Mr Moore details, with considerable erudition, 'the various theories and treatment of the small-pox from its appearance in Arabia, to the fifteenth century,' beginning with Ahron, who wrote subsequently to the epoch of the Hegyra (622), but whose works are lost, except some fragments preserved by Rhases, and ending with Arnold of Villanova, Gilbertus Anglicus, and John of Gaddesden. The author appears to have examined the works of all these authors with great industry; and he has detailed the principal doctrines and methods of treatment, which they have respectively adopted with respect to the small-pox, as well as the leading circumstances of their lives and characters; so that this chapter is a neat but comprehensive compendium of the medical history of Arabia, and is enlivened by many judicious remarks on the peculiar merits and imperfections of these writers, as well as by various anecdotes not immediately connected with the small-pox. The minute and amusing account of Arnoldus de Villa-nova evinces, among others, the zeal and success with which Mr Moore has sifted the writings of these ancient authors. The most curious parts of the voluminous works of this writer, as well as the works of John of Gaddesden, are those which relate to the various subjects on which they appear to have been consulted by both sexes, relative to the improvement of their mutual attractions. Arnold treated of sorcery, too, as of a malady in the physician's province; and describes many witcheries, and the potent spells by which they may be overcome. The terror of cold, which was strongly inculcated by the first writer on small-pox, Ahron, upon hypothetical principles, was not less carefully inculcated by all subsequent writers down to Sydenham; and John of Gaddesden and his contemporaries ascribed much efficacy to every thing *scarlet*, probably from its fiery hue.

Chapter VI. is headed, 'From the fifteenth to the middle of the seventeenth century—Fire, philosophy, and the alexipharmic treatment.' The author has here shown the same able discrimination of character, in his biographical sketches of the writers, whose doctrines he briefly describes, and characterizes by some pointed quotation or appropriate anecdote, as well as the same intimate acquaintance with their works. Fracastorius, Paracelsus, Fernel, Forestus, Mercurialis, Sennertus, Van Helmont, Willis, Riverius, Diemerbroek, Kircher, Sylvius, and some others, are thus passed in review, with an account of their opinions and practice in respect to the small-pox.

In the VII. Chapter, the author treats of 'the cold treatment—Sydenham, Boerhaave.' Between these two luminaries of medical science, he has also given brief accounts of the opinions of Etmuller and Doldus. His biographical sketch of Sydenham is short; but his detail of the particular improvements in the treatment of small-pox, which Sydenham introduced, is very copious; and he justly laments the hypothetical error, of bleeding in the last stages of confluent small-pox, into which that able physician fell. Boerhaave admitted that the history of small-pox and measles, which Sydenham left, could not be improved; but from his general reasonings on febrile diseases, he had the merit of introducing two essential improvements on the practice of that author, the exhibition of aperients in the beginning, and changing the antiphlogistic for a cordial regimen towards the conclusion of the confluent small-pox.

In the three following chapters, the author has given an animated account of the discovery and progress of inoculation, from the Chinese custom of *sowing* the small-pox, down to the improvements made by the Suttons, Dimsdale, and others; together with a detail of the controversies which it excited, and of the various publications, religious and medical, to which it gave rise in this country. And in the eleventh, and last, chapter, he treats of the opinions of Dr Cullen, and of the final treatment in which physicians at length terminated their dissensions. Mr Moore then inquires into the result of the labours of twelve centuries to remedy this malady; and confesses that the view is rather mortifying to a medical philosopher. The immense general mortality, however, he justly remarks, is not disgraceful to the art of medicine, because in individual cases the fatality of the disease has been much diminished by the improvements in practice, and especially by inoculation; and indeed in no disease perhaps has the salutary influence of medicine been more conspicuous. For in countries, where ignorance of the disease prevailed, the small-pox has proved a most fatal pestilence; but here, a very large proportion of the community, who submitted to professional instruction, have escaped all the calamities incident to the disease. The mischief has arisen principally from the difficulty of inducing all persons to resort to inoculation; and under that impossibility, it has been increased from the want of some laws of exclusion, analogous to those of quarantine, by which those, who produce the disease by inoculation, should be prevented from exposing the inoculated persons in the way of those who are liable to the infection. A recent decision in the Court of King's Bench, however, has shown, that such an exposure, where it produces the disease in others, is a misdemeanour by common law; and a medical practitioner, and an ignorant mother, have recently been subjected to imprisonment for being guilty of this act. We submit to the most severe laws of quarantine, for the sake of evading the introduction of foreign contagion, (laws which allow any individual to take the life of a person seen in the act of breaking them); and there seems no sound reason why we should not guard against the wilful propagation of domestic contagion, by a law, which should preclude all persons infected with the small-pox from mixing with the public.

'Some opposition,' says the author, in his concluding paragraph, 'might be expected from those who live by spreading contagion among the community. But there are a set of men whose immoral conduct merits rather the castigation of the magistrate, than the consideration of the legislature. And few even of them would have the effrontery to raise objections to a statute for extinguishing the most fatal pestilence that ever preyed upon man; which, like the benign law for abolishing the slave-trade, would reflect lustre on the mover, adorn the annals of parliament, and add grace to the sovereign; and would likewise form (though it may spoil the climax) the most agreeable conclusion possible to the eventful History of the Small-Pox.'

The foregoing sketch of the contents of this work will afford some idea of the very complete view which the industry and ability of the author have enabled him to present of the evidence which is extant respecting the progress and treatment of the small-pox; but it will afford no adequate impression of the various collateral information, connected with medical history, with which it abounds, and of the sprightliness of the manner in which it is detailed, both of which contribute to extend its interest beyond that of the medical reader.

II.

Some Additional Experiments and Observations on the Relation which subsists between the Sanguiferous and Nervous Systems. By A. P. Wilson Philip, Physician in Worcester. From the Philosophical Transactions of 1815.

As M. le Gallois founds many of his opinions on the supposition, that the circulation nearly ceases in any part when the nervous influence is withdrawn from it, Dr Philip made the following experiment, to ascertain how far this opinion is well founded. After destroying the spinal marrow of a frog, by a wire introduced into the spine, and moved about in it, he brought the web of one of the hind-legs into the field of a microscope, and found the circulation in it as vigorous as in a healthy frog; and he refers to several experiments related in his former paper, to prove, that the circulation is equally independent of the nervous system in warm-blooded animals. The above opinions of M. le Gallois, therefore, he regards as unfounded, and conceives that the phenomena to which they relate, can only be explained on the principles laid down in his former paper, the principles hitherto assumed by physiologists not applying to these phenomena. Referring to this paper, he observes,

> ' One part of the subject I left untouched, as it seemed at first sight to open too extensive a field of inquiry. It was evident, in making the experiments related in that paper, that the laws which regulate the effects of stimuli applied to the brain and spinal marrow, on the muscles of voluntary and those of involuntary motion, are very different. '

In the present paper, he relates six experiments, made with a view to ascertain the circumstances in which the effects of stimuli, acting through the nervous system on these two sets of muscles, differ.

The 1st experiment shows, that passing a wire in various directions through, or even cutting slices from the brain, does not at all affect the muscles of voluntary motion, except when we approach those parts of the brain from which the spinal marrow or nerves originate; while the muscles of involuntary motion are affected by mechanical stimuli applied to any considerable portion of the brain, no one part appearing to affect them more than any other.

The 2d experiment shows, that strong spirit of wine applied, either to the surface or any other part of the brain, even to those parts from which the nerves originate, produces no effect on the muscles of voluntary motion; that, applied to the surface, it readily increases the action of the heart, and increases it to a greater degree when applied to the internal parts. An infusion of opium produced the same effect on the heart, but in a less degree. Under the term brain, he includes both the cerebrum and cerebellum. He could not observe that the heart was more or less affected, either by chemical or mechanical stimuli applied to the cerebellum than to the cerebrum; nor could he affect the muscles of voluntary motion by wounding the cerebellum, unless the instrument was made to approach the origin of the spinal marrow or nerves.

It appears, from the 3d experiment, that no chemical stimulus, except the most powerful, the concentrated mineral acids, can excite the muscles of voluntary motion when applied to the spinal marrow; but that both spirit of wine, and a watery solution of opium, applied to this organ, readily increase the action of the heart.

From the 4th experiment on this part of the subject, that is, the fifth of the paper, it appears, that after the brain and spinal marrow could no longer excite any contraction in the muscles of voluntary motion, both were still capable, when stimulated, either mechanically or chemically, of increasing the action of the heart.

From experiment 6th it appears, that we cannot, by stimulating the brain, excite irregular action in the heart, which is so readily excited in the muscles of voluntary motion.

Experiment 7th shows, that the effect on the muscles of voluntary motion chiefly takes place at the time the stimulus is first applied to the brain; that on the heart continues as long as the stimulus is applied, unless it is of such a nature as to produce the sedative, after the stimulant effect.

'The sedative effect,' he observes, 'was so far from being the consequence of the previous excitement, as many physiologists have supposed, that spirit of wine, and mechanical stimuli, which produced no sedative effect, but continued to stimulate the heart as long as they were applied, produced a much greater degree of excitement than tobacco, whose slight stimulant effect was quickly succeeded by a powerfully sedative one.'

From experiments 8th, 9th, and 10th, it appears that neither mechanical nor chemical stimuli, applied either to the brain or spinal marrow, affect the action of the heart, unless they make their impression on a large part of these organs. It also appears, from some of the experiments above alluded to, that the heart obeys a much less powerful stimulus than the motions of voluntary motion do. On these two facts Dr Philip founds his explanation of all the differences observed in the effects of agents acting through the nervous system on the muscles of voluntary and involuntary motion, for which we refer to the paper.

The experiments by which he has ascertained that the heart is influenced by every part of the brain and spinal marrow, led him to inquire by what means the heart is so influenced. He observes,

'It appears, from the foregoing experiments, that the heart is influenced by every part of the nervous system; and, in a former paper, I pointed out why we have reason to believe that the intestines obey the same laws with the heart, although this cannot be so directly proved. From the situation of the ganglia, compared with the whole of the experiments here alluded to, I think we cannot help believing, that their office is to combine the influence of the various parts of the nervous system, from which they receive nerves, and to send off nerves endowed with the combined influence of those parts. Without some such means, it would be difficult to conceive how any organ should be influenced by every part of the nervous system. We cannot suppose that it receives nerves from every part of this system. Indeed, we know that no organ does so. The following seems to be the state of the question.—We see some parts influenced by every part of the nervous system, others only by certain small parts of it. In the latter instances, we see nerves going from these small parts directly to the parts influenced. In the former instances, namely, where it is found that the part is influenced by all parts of the nervous system, we see no nerve going directly from any part of this system to the parts influenced; but we see these parts receiving nerves from ganglia, to which nerves from every part of this system are sent. It is therefore evident, from direct experiment, that the nerves issuing from ganglia convey the influence of all the nerves which terminate in them, to the parts to which they send nerves; and, consequently, that this is one use of the ganglia: nor does there seem any reason to induce us to believe that they have any other use. Thus it would appear that the ganglia and nervous filaments connecting them, which have been called the great sympathetic nerves, are, if I may be allowed the expression, a channel of nervous influence, flowing from every part of the brain and spinal marrow, from which those organs are supplied which are subjected to the whole nervous system; those subjected to any particular part of this system being supplied directly from that part. This view of the subject is consistent with the observations of anatomists, who remark, that the great sympathetic has by no means the character of a nerve. Nothing, surely, can be more different than this string of ganglia, and a nerve, such as it passes from the brain and spinal marrow to the muscles of the trunk or limbs. It may also be worth remarking, that the nerves sent off from ganglia have a very different appearance from those coming directly from the brain and spinal marrow.—*Recherches Physiques sur la Vie et la Mort, &c. par M. Bichât.*'

Among the opinions which have prevailed respecting the cause of the will having no power over the muscles of involuntary motion, one is, that its influence is intercepted by the ganglia. It appears, from the experiments related in this paper, that they do not intercept the influence, either of stimuli or sedatives applied to the nervous system. Dr Philip ascribes our having no power over these muscles to their obeying stimuli which we cannot influence, and to our not being conscious of their motions.

The author's next object is, to ascertain whether the power of the blood-vessels is as independent of the nervous system as that of the heart; and whether this system possesses over them the same kind of influence as over the heart. The experiments undertaken with this view were made on the capillaries of a frog.

'It has been questioned,' he remarks, 'how far inferences, drawn from experiments made on cold-blooded animals, can be supposed to apply to those of warm blood. Both Fontana and Dr Monro observe, that, in their experiments, they found the system of both obeying the same laws. The experiments I have had occasion to lay before the Society tend to confirm this observation; and I may say the same of all the experiments I have made on both sets of animals. There are certain circumstances in which they evidently differ; in all others they seem to agree.'

In experiment 11th, the head was cut off, after a ligature had been thrown round the neck, to prevent loss of blood; and the spinal marrow was destroyed by a wire. On bringing the web of one of the hind-legs before the microscope, he found the circulation in it vigorous, which it continued to be for many minutes. Thus it appears that the blood-vessels retain their power after the nervous system is destroyed.

In order to ascertain whether the blood-vessels are capable of being directly stimulated through this system, it was, in the first place, necessary to ascertain whether the vessels can support the motion of the blood, independently of the heart. For this purpose, a ligature was thrown around all the vessels attached to the heart of a frog, and the heart cut out. The motion of the blood in the extremities was still found to be rapid.

Much difficulty occurred in attempting to proceed further. In order to ascertain the effect of stimuli applied to the nervous system on the vessels of the foot, it is not only necessary to remove the heart, and lay open the cranium, but also to prevent the voluntary motions of the animal, by destroying its sensibility and power of voluntary motion. Dr Philip observes, that,

'Notwithstanding this experiment was repeatedly performed with the greatest care, the circulation by all these preparatory means was so enfeebled, that, although the blood still moved in the web, it was in so irregular and uncertain a way, that I never could arrive at any positive conclusion respecting the effect of the stimulus applied to the brain. After many fruitless attempts, therefore, I abandoned this mode of making the experiment.'

He therefore had recourse to the effects of sedatives. These, it is evident, will not be increased by the action of the muscles; and, as cutting out the heart does not immediately impair the circulation in the extremities, it is evident that any effect which the sedative may have on the heart may be overlooked. He thus, in experiments 14th and 15th, ascertained, that agents applied to the brain are capable of immediately influencing the vessels of the extremities.

It appears, from experiment 16th, that, analogous to what was observed of the heart, we cannot, either by chemical or mechanical agents, excite irregular action in the blood-vessels. Their action is only rendered more or less powerful. Dr Philip observes,

'The irregular appearances in the circulation in the web of a frog's foot, mentioned by Dr Thomson, professor of military surgery in the University of Edinburgh, in his lectures on Inflammation, lately published, and which he ascribes to inflammation, may be observed in any case, if the vessels be at all compressed in applying the foot to the microscope; and, although they are not compressed, these appearances very generally occur when the circulation begins to fail. The blood will then stop and go on at intervals, and move backwards and forwards in the same vessel. I have often watched the capillaries, from the commencement of inflammation to its greatest height, when the part is about wholly to lose its vital power, in the mesentery of a rabbit, the web of a frog's foot, and the fins of fishes, without perceiving the least tendency to this irregular motion, when the part viewed was so applied to the microscope as not to compress its vessels.' *

From the 17th and 18th experiments, it appears, that the power of the blood-vessels, like that of the heart, is capable of

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* 'An account of these experiments is published in the introduction to the second part of my Treatise on Febrile Diseases, and a plate given, representing the state of the vessels in the different stages of inflammation.'

being destroyed through the medium of the nervous system. The vessels instantly lost their power on suddenly crushing either the brain or spinal marrow.

From all the experiments and observations in this paper, Dr Philip draws the following conclusions—

'1. That the laws which regulate the effects of stimuli applied to the nervous system, on the muscles of voluntary and those of involuntary motion, are different.

'2. That both mechanical and chemical stimuli, applied to any considerable portion of the nervous system, increase the action of the heart.

'3. That neither mechanical nor chemical stimuli, applied to the nervous system, excite the muscles of voluntary motion, unless they are applied near to the origin of the nerves and spinal marrow.

'4. That mechanical stimuli, applied to the nervous system, are better fitted to excite the muscles of voluntary motion, and chemical stimuli those of involuntary motion.

'5. That, after all stimuli applied to the nervous system fail to excite the muscles of voluntary motion, both mechanical and chemical stimuli, so applied, still excite the heart.

'6. That both mechanical and chemical stimuli, applied to the nervous system, excite irregular action in the muscles of voluntary motion.

'7. That neither excite irregular action in the heart, nor is its action rendered irregular by sedatives, unless a blow which crushes the brain be regarded as a sedative.

'8. That the excitement of the muscles of voluntary motion takes place chiefly at the moment at which the stimulus is applied to the nervous system:—that of the heart continues as long as the stimulus is applied.

'9. That the muscles of voluntary motion are excited by stimuli applied to very minute portions of the nervous system.

'10. That no stimulus applied to any minute part of the nervous system can excite the heart.

'11. That the heart obeys a much less powerful stimulus, than the muscles of voluntary motion.

'12. That the facts expressed in the three last sentences, 9, 10, 11, afford an easy explanation of those expressed in the preceding sentences.

'13. That the power of the blood-vessels, like that of the heart, is independent of the nervous system.

'14. That the blood-vessels can support the motion of the blood after the heart is removed.

'15. That the blood-vessels are directly influenced through the nervous system in the same way that the heart is.

'16. That, analogous to what we observe in the heart, no stimulus or sedative applied to the nervous system excites irregular action in the blood-vessels.

'17. That the power of the blood-vessels, like that of the heart, may be destroyed through the nervous system.

'18. That the office of the ganglia is to combine the influence of the various parts of the nervous system, from which they receive nerves, and to send off nerves endowed with the combined influence of those parts.

'19. That the will has no influence over the muscles of involuntary motion, because, in their ordinary action, they obey stimuli over which we have no influence, and because at all times we neither see nor are otherwise conscious of their motions, and consequently cannot direct them.

'20. That we have reason to believe that the division of the encephalon into the cerebrum and cerebellum, relates to the sensorial functions, since it does not appear to relate to the nervous functions; the muscles of voluntary and those of involuntary motion being influenced in the same way by both.

'21. That the sedative effect is not the consequence of previous excitement, but the effect of a certain class of agents.'

III.

Commentaries on some of the most important Diseases of Children. By JOHN CLARKE, Esq. M. D. &c. &c. &c. Part the First, 8vo. pp. 198. London, 1815. Longman & Co.

THIS title-page, we suppose, was partly the composition of the author, and partly of the booksellers; the left-handed compliment of attaching *esquire* and three unmeaning *et cæteras* to the name, probably emanating from the latter, according to the notions of precedency and dignity in Paternoster-row. We sincerely lament that the author should have survived for so short a period the publication of this volume, (which appears to be but the first part of a series of commentaries), at a time of life when the vigour of his intellect, and the comparative leisure in which he had begun to indulge, might have been expected to afford him the power, as he had evinced the inclination, of laying open the stores of his long and ample experience in this department of practice. We know not whether he had made any progress in the composition of the subsequent parts of this work; but from the desultory manner in which this is confessedly written, and from the little art or labour apparently employed in the arrangement of the materials, we should be disposed to think that the author had related the chief results of his personal observation *currente calamo*, and sent them to the press before he had made much further progress in the work. We mention not this in disparagement to the execution of the work, which has probably gained in spirit what it may have lost in formality and method.

In the first chapter, the author has given some interesting 'general observations on the diseases and mortality of children, and on the state of medical knowledge on these points.' After pointing out the inaccuracy of the bills of mortality, especially in respect to the births, and suggesting some means of improvement, he shows, that of all the children born within the district of the bills, nearly one-fourth die under two years of age, and of the survivers about a fifth under ten. In some years the proportion is much larger. Alluding to the speculations of Malthus, he remarks, that the want of subsistence in this country cannot be a sufficient cause for this extensive mortality at those periods of life, and that it is, doubtless, attributable to some mismanagement of young children. He justly condemns the mischievous practice of attempting to harden them by scanty clothing and exposure to cold, to which he ascribes not only much early disease, but the occurrence of scrofulous and phthisical complaints in more advanced life: and he refutes the appeal to the experience of the poor, by affirming, that a large proportion of the mortality of children occurs in the families of the poor, who rear comparatively few, in consequence of the morbid influence of cold, bad air, uncleanliness, crowded apartments, neglect, and the constant prevalence of contagions in large towns. He descants at some length and with considerable feeling on the necessity of some legislative interference to prevent the artificial propagation of these contagions, and suggests the means of accomplishing it; passing, by the way, a warm and well-merited eulogium on the character and conduct of Dr Jenner, the benefactor of mankind. In addition to these sources of infantile disease, children are liable to other causes of disorder peculiar to their time of life, of the nature of which physicians were kept in ignorance down to a very late period, in consequence of the exclusive employment of women in the practice of midwifery, many of whom merited the character given by Terence. 'Sane pol! ista temulenta est mulier et temeraria.' This leads the author to a brief historical sketch of the rise and progress of scientific midwifery in this country, and of the series of medical writings on the diseases of children, down to the works of Dr Hamilton and Dr Burns, which he highly commends. The talents and high character of Dr William Hunter, gave the first importance and respectability to the practice of midwifery, which had been deemed disreputable, and against which, the author affirms, there is a prohibitory by-law of the College of Physicians, excluding the fellows from the practice of it; whence the ignorant and empirical use, which is not altogether exploded, of opiates, carminatives, emetics, &c.; many of which have been seen by the author to prove speedily fatal. He concludes this chapter, by showing that the diseases of children, though not elucidated by the descriptions of the patients, are nevertheless very distinctly cognizable from visible symptoms. It might be added, indeed, that, generally speaking, they are much less complicated and obscure than many of the diseases of adults, and much more certainly under the influence of well-directed remedies, on account of the greater mobility of the infantine system.

Chapter II. professes to treat 'of the structure of the mouth and organs of digestion of children, and the diet proper for them at different ages dependent upon it;' and contains many forcible arguments in proof of the great importance of the proper management of the ingesta, and in favour of the practice of suckling on the part of mothers. He depicts in strong colours the physical and moral evils which arise from the employment of wet nurses in the families of these poor women, and deprecates the practice on the score of humanity, as well as of the frequent inaptitude of the milk to the age of the child. He shows how numerous and important are the maladies which may be indirectly traced to mal-administration of the aliments, and consequent derangement of the digestive process; such as 'the disorders attendant upon dentition, scrofula, incurvation of the spine, rickets, enlargement of the absorbent glands of the mesentery and other parts of the body, many eruptions on the skin, phthisis, inflammation of the brain, the remitting infantile fever, marasmus,' &c. (p. 37.) And he dwells especially on the impropriety of using stimulating food and drink, and full diet, which necessarily induce a predisposition to inflammatory disease, and aggravate the difficulties of dentition, catarrhal, pulmonary, cerebral, and intestinal complaints. He argues, from the manifest adaptation of the organs to the natural aliment in all classes of animals, against the practice of giving solid food, whether animal or vegetable, to young children, and considers that every mode of feeding them, in which the action of sucking is not excited, by which means a proper quantity of saliva will be mixed with the aliment, is injurious. His expressions on this topic are very strong.

'Nothing can be more contrary to this,' he says, 'than to stuff a child's mouth and stomach with solid (perhaps animal) food, or even to pour down its throat, with a spoon, milk and bread, or any other solid matter, without sucking, mastication, or the secretion of saliva. To give an infant the best chance of health, it should live exclusively upon the milk of a healthy woman, and that woman should be its mother, if she is healthy and capable of nursing it. Scarcely any thing will compensate for the want of this natural support. Multitudes of children die, literally starved, under the eye of persons who would shudder at infanticide, and the exposure of children as it is practised in China; as if a speedy death were not preferable to a life cruelly protracted, in distress, pain, disease, and agony, and at last miserably terminated.' p. 48.

He concludes, therefore, that, when a child is brought up by the hand, its food should be entirely fluid, and taken by suction, till it has teeth. As soon as the incisores are protruded, 'solid farinaceous matter, boiled in water, beaten through a sieve, and mixed with a small quantity of milk, may be employed; and then, for the first time, the child should be fed by hand.' When the molares have appeared, the same food is recommended; but the bread need not be beaten; and solid animal food should not be given, till the child has all the cuspidati, and then in small quantity, once in a day. They require no other beverage than water, or rennet whey; and the practice of giving wine is not to be justified in any instance, where the child is healthy. He apologizes for the stress laid upon this part of the subject, which some may deem trivial, from a conviction of its essential importance as a preventive of disease.

Much novelty is not to be expected on the subject of the disorders attendant on dentition, which occupies the third chapter. Dr Clarke ascribed much of these evils to overfeeding, which produces plethora, or to improper feeding, which excites irritation, and also to the error of keeping the heads of children too hot. He asserts, from experience, that coolness of the head and daily washing with cold water, render them less liable to serious complaints at the time of teething; and that weakly children often suffer little or nothing, because less liable to inflammation and fever. Spontaneous salivation or diarrhœa lessen the irritation of teething, which indicates the propriety of laxative medicines; and these he deemed especially necessary, if, from neglect of diet, &c. plethora had occurred, cutaneous eruptions had appeared, and local remedies were applied to the latter, which, however, if not very important, he advises us to leave unassisted, especially if extensive. He recommends very free scarification of the gums, when they are tumid, especially in full habits; and cautions us against the use of opiates, adding a philippic against the immorality of the government, in bartering the lives and health of its subjects, and virtually sanctioning murder, for the sake of a stamp duty on quack medicines. They will hang the vender, he says, if he forge the stamp; but if he pays for it, he may deal death and destruction around him with impunity.

The three following chapters treat of convulsions. In Chapter IV. we have a brief account of the symptoms which precede, accompany, and follow the ordinary attacks of convulsions. The principal observation, which may not be familiar to practitioners, is contained in the following paragraph. The author believes that, under the vague use of the term 'convulsions,' in the bills of mortality, the deaths of *blue* children, arising from the disturbed state of the circulation in malformations of the heart, are included.

'But,' he adds, 'every case in which a livid appearance of the face, &c. occurs, is not one of malformation. If from any accidental cause, such as flatulency, the diaphragm is prevented from descending in the act of inspiration, the lungs cannot be sufficiently expanded to admit a proper quantity of air into them. A paroxysm of this kind will then be produced, which commonly yields either to a strong spontaneous contraction of the stomach, expelling the air which had over-distended it, or to some medicine, stimulating the stomach to contraction, such as ammonia or æther, in aqua anethi, aqua pimentæ, aqua menthæ, or any other mild stimulating medicine, occasionally given, so as to produce the muscular contraction of the stomach.' p. 80.

In Chapter IV. (for we have two Chapters IV.) the author describes 'a peculiar species of convulsion in infant children,' which is often mistaken, even by medical men. This affection has been denominated by some practitioners, 'chronic or spasmodic croup,'—an appellation calculated in some degree to mislead us as to the nature of the affection. It occurs by paroxysms; and, to use the author's words,

'It consists in a peculiar mode of inspiration, which it is difficult accurately to describe. The child, having had no apparent warning, is suddenly seized with a spasmodic inspiration, consisting of distinct attempts to fill the chest, between each of which a squeaking noise is often made; the eyes stare, and the child is evidently in great distress; the face and the extremities, if the paroxysm continues long, become purple, the head is thrown backward, and the spine is often bent, as in opisthotonos; at length a strong expiration takes place; a fit of crying generally succeeds; and the child, evidently much exhausted, often falls asleep.' p. 87.

These paroxysms occur several times in the day, from the slightest irritations, and often immediately on waking from a tranquil sleep; and may go on for two or three months, if not properly treated, until a general convulsion produces alarm.

The complaint seldom occurs after the third year, or in children which have lived by sucking till they have got teeth. This and all other convulsive diseases the author ascribes to some actual affection of the brain, and he takes some pains to show how this affection may be produced directly and indirectly, from over-feeding, keeping the head hot, the sudden cure of ophthalmia, and of discharging eruptions, the occurrence of fevers, &c.

The 'treatment of convulsions' is the subject of a separate chapter, which is numbered V., though in fact the sixth. After remarking upon various organic causes of convulsion in the brain, and stating several circumstances connected with congenital or chronic hydrocephalus, all of which are beyond the reach of medical agency, and upon the temporary irritations, connected with the approach of some eruptive fever, which cease on the equable distribution of blood which follows the eruption, Dr Clarke has detailed the principal remedies on which any dependence is to be placed in the cure of convulsions; beginning with very free scarification when the gums are full; an immediate glyster under all circumstances, followed speedily by an active purgative; and the warm bath at 92° or 94°. In most cases, considering that the head is usually overloaded with blood, he deemed it right to produce an evacuation of that fluid by leeches, cupping, or from the external jugular vein. Respecting the particular preference of one or the other mode of operation, he refers to a future part of these commentaries. If these means have failed, blisters may be applied *to the lower extremities*, and cold fluids or ice to the shaven scalp. The use of opiates, he affirms, requires the greatest circumspection, and should never be resorted to until the bowels have been completely unloaded, and there is obviously no inflammation or danger from pressure in the brain. An individual paroxysm may be shortened by dashing cold water over the face, in a horizontal position, and by the inhalation of volatile alkali. The author had never been fortunate enough to witness any good effects from the tribe of internal antispasmodics, the preparations of æther and ammonia excepted; which never appeared to him to derive any additional efficacy from an admixture with assafœtida, valerian, castor, musk, tinctura fuliginis, amber, and other fetid substances. These medicines, which seem to possess no property in common, save their offensiveness to the smell and taste, have, he believed, been greatly overrated, and are continued to be employed, rather from a deference to authority, than from any decided proof of their efficacy; an observation in which we are disposed to coincide.

The longest chapter in the volume, marked VI., treats of 'phrenitis, or inflammation of the brain in children,' under which appellation it is manifest that the author describes hydrocephalus, which he considers as the consequence and *natural cure* of the former. Inflammation of the brain, he affirms, is a far more common disease of children than it has been suspected to be, and has probably been the cause of death, in numbers who have been said to be cut off by idiopathic convulsions. But convulsions are seldom, if ever, idiopathic. He states many reasons why children should be more subject to this inflammation than adults; and affirms that simple fever, independent of a local cause, never occurs at the early periods of life. He endeavours to show that the febrile affection accompanying the commencement of inflammation of the brain, may be distinguished from others, chiefly by the increased acuteness of the senses of feeling, hearing, and sight. Impatience of light, particularly, he deems a striking diagnostic at a very early stage of the disease, which occasions a violent contraction of the iris even in a moderate light, so as almost to obliterate the pupil. This circumstance, though overlooked by modern writers, he found was noticed by Aretæus. The author might have found the observation in Dr Cheyne's valuable essay on Hydrocephalus, among the early symptoms so well detailed by that judicious writer. He then describes the change from this state of irritability of the sensorium to the opposite condition, resulting from oppression; observing that when the patient is cut off in the first stage of the disease (which he says, often happens), it is always by convulsions. When these are partial, the side affected not uncommonly becomes permanently paralytic, remaining so through life. The observations resulting from dissection are very brief. When patients die in the first stage, there is high vascularity of the membranes, especially at the basis of the cranium, but no decided alteration in the substance of cerebrum or cerebellum; and the author had seen 'the optic nerves entirely imbedded in a sheath of coagulating lymph.' After death in the second stage, there is always more or less of water effused between the membranes, or in the ventricles, or in both situations. But the author adds, that the derangement of structure is not always found to be commensurate with the violence of the symptoms.

After some discussion respecting the predisposing and exciting causes, among the latter of which, he strenuously insists upon the sudden healing of cutaneous eruptions and discharges about the head and ears, and the cure of ophthalmia, without a simultaneous diminution of nourishment, purges, setons or issues at the nucha, or blisters to the *lower extremities*, he lays down his plan of treatment for inflammation of the brain. Although the prognosis may be said to be generally unfavourable, yet he maintains that our efforts should not be relaxed; for that, often in the first stage, if early treated, the disease yields, like other internal inflammations, to the remedies employed, 'and so its consequence (hydrocephalus internus) may be prevented;' and that, even in the second stage of the disease, it admits of remedy. He was of opinion, that the prospect of relief was greater, when the symptoms of the second stage had taken place without *screaming*. He had previously mentioned a notion, that the screaming fits occurred with the first and subsequent effusions of water; but this prognosis he here states as a matter of experience.

Deeming the disease to be, in all cases, in the commencement, pure inflammation of the brain, he considered *blood-letting* of course as the principal remedy. As in children a large vessel often cannot be found, we are reduced to the choice of *cupping* or applying *leeches;* and the author, upon very just grounds, gives a decided preference to the former. We agree entirely with the remarks of the respected author upon the necessity of practitioners, especially of those living in the country, learning this most useful and efficacious operation; and we recommend the following very just strictures to the consideration of students.

> 'In the course of the life of any medical man, in general practice, it is much more important that he should be able to cup and scarify well and effectually, than that he should understand the best mode of applying a trephine, or performing the operation for a strangulated hernia, or aneurism. But it is too common for students to flock to an operation (which they will most probably never have occasion to perform) attended with great difficulty and danger, and requiring the greatest anatomical skill, to the neglect of those things which occur in daily practice, and which are, therefore, of more importance to be well understood by them.' p. 151.

Those who cannot have the opportunity of personal instruction, should procure Mr Mapleson's perspicuous little work on the art of cupping, which will assist them in obtaining some of his great dexterity in that art. The principal caution requisite in taking blood from young children, arises from the circumstance that they 'bear very well the loss of blood, even to fainting, once or twice, but they ill bear a more frequent repetition of bleeding.' Dr Clarke says,

> 'From a child of seven or eight months old, two ounces and a half of blood may be taken, and one and a half or two more in sixteen hours afterwards. Three ounces may be taken from a child of a year old, and two and a half or three afterwards, if the symptoms do not yield: at this age two or more may be taken in twelve hours after the

second bleeding, if it should be necessary, and the patient has not been too much weakened already.

In older children, the external jugular may be opened with advantage, from which the author endeavours to show, at some length, special benefit accrues—but, as it appears to us, by a piece of hypothetical refinement. At four years and upwards, children bear blood-letting from a vein repeatedly, if necessary.

A purging enema immediately, followed forthwith by a large dose of calomel, and that by a solution of salts in infusion of senna, at short intervals, daily, is the next step in our author's practice, with the interposition of diaphoretics of ipecac. or antimony. Against the common practice of blistering the scalp, he has a long *anatomical* objection, which he ascertained, he says, after he had witnessed its entire failure to give relief in all cases. In all other internal inflammations, he believes, the essential value of blisters arises from revulsion; but 'the anastomosing branches of the two carotid arteries reciprocally feed each other through the bones of the skull;' and therefore a blister applied to the scalp will rather aggravate the determination of blood to the brain. We are afraid of trusting any man's observation of facts, when he has a specious hypothesis at his fingers' ends; but when the author dwells upon the recovery of a child, who had large blisters applied to the outside of the legs, and still more when he recommends not only rubefacient cataplasms to the lower extremities, but advises us to *heat* these parts, 'which in all cases of inflamed brain *should be made very warm* by additional clothing,' we have no longer any doubt of the paramount influence of this theory of revulsion. Who that has felt the throbbing headach of a febrile paroxysm, has not also felt the relief from cooling his extremities, and the aggravation excited by flannel and heat? We believe, indeed, that the stimulus of heat on the extremities, so far from mechanically dilating the vessels, and causing a proportionate distribution of blood into those parts, actually operates as a general excitement to the whole circulation, and aggravates any inflammatory action that may exist in any given organ. The next very judicious remedy, however, tends to counteract any effect of this sort; and we can add our testimony to that of the author in favour of its efficacy in controlling the circulation of the head; we allude to the free application of *cold* to the shaven scalp. In all cases of determination to the head,—in the violent delirium of common fevers, as well as in the incipient stage of hydrocephalus,—this expedient, if effectually employed, is productive of the most manifest and speedy relief. Iced water is recommended by the author; but as that is only to be procured in a few situations, the application of ether or spirit, much diluted, by the rapid evaporation which ensues, produces a degree of cold adequate to every purpose, and is equally effectual.

Dr Clarke considered tepid bathing, twice a day for an hour, as a useful auxiliary, 'by diffusing the circulation.' The food, during the inflammatory stage, should be barely sufficient to sustain life; but he gives another example of hypothetical refinement, in respect to the restriction of liquids, which he limits to the mere slaking of excessive thirst; 'because when mischief is to be apprehended from pressure on the brain, watery fluids will affect it as certainly as blood, though they may not equally support inflammation.' p. 174. There is too much of mechanism, and too little of the vital excitability, in these speculations, according to our notions of a good pathology, supposing it even proved that the quantity of circulating fluids was much augmented, and vessels were distended by taking diluents, the excretories not maintaining a regular balance, which is altogether gratuitous: yet is it not a matter of experience, that the excitement of perpetual thirst, or any other irritating impression, is a source of considerable aggravation in all febrile states, and much more injurious in its effect upon the circulation, than any imaginary increase of the bulk of the blood by dilution?

The inflammatory stage having passed by, and effusion of water in the cranium having taken place, (the 'natural cure' of the inflammation), the former treatment must be discontinued; and remedies calculated to effect the absorption of that already thrown out, and to prevent further effusion, must be substituted. This, however, is a matter of no easy accomplishment. Diuretics and purgatives, such as neutral salts, squill, digitalis, and elaterium in very small doses, have not been decidedly beneficial. 'Mercury appears to be the only medicine which has been successful in the cure of acute hydrocephalus; and with this view it may be used both externally and internally in very considerable quantities.' p. 179. At any age above one year, the author recommends half a drachm of the strong mercurial ointment to be rubbed in on any broad surface every six hours; and this may be increased in two days to two scruples or a drachm. At the same time, to children of a year old and upwards he gave one grain of calomel internally every six, four, or even three hours, unless diarrhœa supervened. When it brings on a discharge of green mucous stools, he discontinued the internal use of the mercury, or gave it less frequently. Though not very sanguine in his expectations of success in the second stage of the disease, Dr Clarke had seen several cases of recovery under this mercurial treatment.

The volume is concluded by a very short chapter on 'Idiotism, Paralysis, and Epilepsy in children,' which, when they occur as the consequences of inflammation of the brain, are seldom remediable. Some observations follow respecting the means of lengthening the intervals in chronic epilepsy, by regulating the dietand bowels, keeping the head cool, &c. and on the occasional efficacy of the preparations of zinc.

It will be seen that this treatise contains many proofs of an active and vigorous mind, intent upon the investigation of the diseases which an extensive practice presented to the observation of the author; and the treatment adopted implies not less decision than judgment, and is worthy to be studied by all who are occupied in the same pursuit.

IV.

Reports of the Pestilential Disorder of Andalusia, which appeared at Cadiz in the Years 1800, 1804, 1810, *and* 1813; *with a detailed Account of that fatal Epidemic, as it prevailed at Gibraltar during the Autumnal Months of* 1804; *also Observations on the Remitting and Intermitting Fever, made in the Military Hospitals at Colchester, after the Return of the Troops from the Expedition to Zealand in* 1809. By Sir JAMES FELLOWES, M.D. &c. &c. pp. 484. London, 1815. Longman & Co.

This work comes from the very highest authority, not only on account of the professional rank of the author, but much more on account of the zeal with which he availed himself of his opportunities of examining minutely the subject on which he writes. Sir James Fellowes has divided his book into five Reports. The first relates to the fever which prevailed in Cadiz in 1800; the second to that of Gibraltar and Malaga in 1804; the third to the fever of Cadiz in 1810; the fourth to that of 1813 in the same city; and the fifth Report relates to the Walcheren fever, as it appeared in Colchester in 1809. To these are added a Conclusion, and eight Appendixes.

Sir James Fellowes had been with Admiral Christian in the West Indies, and had had only too many opportunities of witnessing the pestilential fever which committed such ravages among our soldiers in St Domingo. He is therefore good authority, when he describes the peninsular fever as 'appearing under a similar form of malignity, and showing many of the strongly marked characters of the St Domingo fever.' Upon this point, and indeed upon almost every point, Sir James entertains opinions nearly similar to those of Mr Pym, and, like him, strongly combats the account which Dr Bancroft has given of the origin and mode of propagation of these diseases. Indeed, it is impossible to deny the contagious nature, at least of the peninsular fever, after having perused the documents collected by Sir James Fellowes. Whether he has been successful or not in tracing the introduction of the fever into particular places, we shall not stop to inquire. However satisfactory the proof of such a fact might be, it is almost impossible to ascertain it, so as not to admit of explanation in controversy; and in disputing about circumstances of very secondary importance, we lose sight of the much more conclusive evidence derived from an extended view of the whole. Although we have so lately expressed our sentiments on the subject, we cannot refrain from confirming them by some general arguments derived from the perusal of the instructive volume before us.

The first is the total disproportion between the increased number of deaths, and any supposable increase of any alleged endemic cause. Even if it were ascertained that the weather in these destructive years was somewhat hotter or colder, or drier or moister than usual, we should only expect the endemic diseases to be proportionally more severe and more numerous than usual; at the most we should expect a very unhealthy year; but the change in the peninsular diseases was not in degree,—it was in character. It was not merely that a much greater number of people were attacked, and that of these a much larger proportion died; but we find that, in these pestilential years, few escaped,—and of those attacked the mortality was excessive. In Cadiz, in 1800, the population was 57,500; 48,520 were attacked, and 7387 died, while the average deaths in a year did not exceed 2616; in Seville the population was 70,488; 61,718 were attacked, and 16,685 died; and in Gibraltar, in 1804, the garrison consisted of about 4000 men; in the monthly return for August there were 83 sick, in that for October there were 565. The average deaths among the military in a year were 72; during the Duke of Kent's command only 39 in two years; during the epidemic, in four months, 918 died, and 164 of their wives and children;

while of 14,000 inhabitants only 28 escaped the disease, and 5028 died.

The next general argument is derived from the history of the various epidemics of this disease which have been observed in the Peninsula. Its recent introduction, the distant periods at which it has appeared, the partial, and, if we may use the word, desultory, manner in which it has affected the Peninsula, all militate strongly against its endemic origin. Before the commencement of the 18th century, Spain had been repeatedly visited by the plague derived from Barbary or the Levant, which confined its ravages to particular places, or extended them more widely, as more or less care was taken to prevent all intercourse with infected places.

In 1730, the disorder since known by the name of *El vomito negro*, or black vomit, first made its appearance in Cadiz, and destroyed

'great numbers of persons, very few having escaped who were attacked by the disease. In the year following, it prevailed with equal fury, and spread general alarm throughout the country; two symptoms were particularly noted as being most fatal in this disorder, which had not been before observed in Spain; viz. spots of a livid, yellow, or dark colour, that covered the body, and were the certain forerunners of the black vomit: The physicians were of opinion, that the malady was of a pestilential nature, and they advised the magistrates to take the necessary precautions.'

It was said to have been introduced by a vessel from Spanish America, and that it spread to other parts of the Peninsula. The year 1730 was remarkable for its drought, which was supposed to have caused the influenza then prevalent.

The *vomito negro* appeared for the first time in Malaga in 1741; and it was also said to have been introduced there by a vessel from South America. It carried off upwards of 10,000 persons. It again appeared in 1764, but was confined to Cadiz, nor even there was it very fatal or general. The preceding spring and summer had been remarkably dry. This epidemic has been briefly described by Dr J. Lind, whose opinion was, 'that the fever may be communicated by contagion, but that this contagion is very slight, unless cooperating with a bad air;—and in a ship is often greatly checked, if not wholly destroyed, by going out into the open sea.'

It again appeared in Cadiz about the beginning of August 1800, in the Barrio de Santa Maria. Although at first confined to this district, it continued daily to gain ground; but, on the 5th of August the people went in procession through the town to appease the supposed anger of the Deity; and in five days time, cases of fever were reported in the other Barrios. About the middle of September the deaths amounted to 200 daily. In October the mortality began to diminish; and on the 12th the city was declared to be healthy. Towards the end of August the neighbouring towns were not yet infected; but about that time it reached Isla de Leon, Port-Royal, Chiclana, Puerta de Santa Maria, St Lucar, and Rota. It also committed dreadful ravages in Seville and Xeres, but did not extend beyond the Sierra Morena. During the years 1799 and 1800, the true plague almost depopulated the states of Barbary, which caused the Governor of Gibraltar to establish regulations and measures of precaution, for the safety of the garrison, which, in fact, remained perfectly healthy, with plague on the one side, and yellow-fever on the other.

In 1801, the yellow fever appeared at Medina Sidonia, but soon ceased, and extended no further.

Toward the end of August 1803, it broke out in Malaga, and carried off great numbers. It declined as usual in the month of December, but only to burst forth with increased virulence early in the summer of the following year, and, upon this occasion, it extended its ravages in every direction. The cities of Cordova, Granada, Velez, Malaga, Carthagena, and Alicant, on the east side of Spain; Antequera, Cadiz, and the towns on the west side, as far as Ayamonte, were severally attacked. It also affected Leghorn, but no other part of Italy, and the lofty fortress of Penon de Velez on the north-west of Africa. At last our own fortress of Gibraltar was doomed to suffer severely, and the 28th of August 1804 is fixed upon as the day when the first case occurred. With the approach of the cold weather, it once more ceased all over Spain for some years.

In 1810, Cadiz was once more attacked, about the 11th of September; great mortality from the ship or jail fever having taken place in the early part of the year among the French prisoners of Dupont's army confined on board hulks. This year it was confined within the walls of Cadiz, on this side of the Peninsula, and even spared the Isla de Leon, to which the British troops had been removed on the first intelligence of the disease having reappeared; but it prevailed at Carthagena, and slightly at Gibraltar; and about the 16th or 18th of October, in the distant island of Teneriffe, but did not extend to any other part of the Canaries.

The kingdom of Murcia continued to suffer in 1811, when the rest of Spain was healthy.

Early in September 1813, the last peninsular epidemic which we hope it will be our duty to record, began in Cadiz, from whence it spread to Port St Mary's, and several other places, to which the emigrants from Cadiz retired. Gibraltar was also visited by it this season.

When we carefully consider this chronological notice of the epidemics of the peninsula, which it has cost us some trouble to extract from the publications of Sir James Fellowes and Mr Pym, and trace their progress upon the map, connected with the local circumstances of the places, whether infected or healthy, it seems to us impossible to account for its progress upon any general principle of peculiarity of local circumstances, or atmospheric influence, independent of contagion.

The third general argument, and one perhaps still more conclusive, is derived from the effect of quarantine and seclusion, in preserving places or individuals from the disease when it was prevalent, and of separation of the sick in putting a stop to its further progress. Sir James Fellowes's Reports abound with the most striking proofs of this fact, and to them we must refer our readers. We shall only extract one or two.

When it prevailed in Murcia, in 1811, the French drew a cordon of troops around the infected district, and it did not extend beyond it. (p. 239.) In 1810 and 1813, when the French occupied Malaga, and had little communication with the surrounding country, Malaga remained healthy. Many cities, as Aguilar, (p. 195), Xeres, (p. 291), remained free from the disease, while it extended to others much more remote, where no precautions were taken. Even in infected towns, those who avoided communication with the diseased escaped, as exemplified in the case of the convicts in Cadiz, and of the workmen in the dock-yard at Gibraltar.

The last argument is the counterpart of the former, the numerous proofs of its being directly conveyed or communicated by personal intercourse, when no other circumstance seemed to favour its propagation. Of this it is sufficient to notice its appearance in 1804, in the fortress of Penon de Velez, on the northern shore of Barbary, distant in regard to situation, but receiving all its supplies from Malaga, while no other part of Barbary suffered from it. The instances in individuals, adduced by Sir James, are very numerous and striking.

We have entered much more at length than we intended into the proofs of the contagious nature of this disease, because we consider the establishment or refutation of that point to be of the very greatest practical importance.

Sir James also confirms, by many instances, the curious fact which we first learned from Mr Pym, but which seems to have been observed very soon by the Spanish physicians, that this disease attacks persons but once in their life.

‘ Professor Arejula closes his observations with the following remark—

'The yellow-fever of Andalusia only attacks persons once in their lives; and it is of great importance for the physician to know this, in order to form his prognostic and his plan of cure, as well as for the individual who may have passed through the disorder, that both of them, being assured of this fact, may step forward without fear to the relief of their fellow-creatures who may hereafter be afflicted with so dreadful a malady.'

Sir James Fellowes has prefixed to the account of each epidemic, an excellent medical topography of the places where it prevailed; and, in the appendix, has given an account of the climate and weather, founded on the most accurate meteorological observations. For many valuable remarks on the nature and symptoms of the disease itself, especially as assisting us in forming our prognosis on its pathological effects and its method of treatment, we must refer to the work itself. Besides his personal experience, his work contains a great deal of useful information derived from the best publications by the physicians of Spain, whose individual merits Sir James was well qualified to appreciate.

The fifth Report contains

'Observations on the bilious, or autumnal remitting and intermitting fever (called the Walcheren fever), with remarks on the treatment of the disease, as it appeared in the military hospitals at Colchester in the months of September, October, November and December, 1809.'

It does not admit of analysis, but contains many excellent observations, of which we shall select a few. First, in regard to the prevention of the disease.

'On referring to the returns of the sick that came under his charge to England, Mr Jones informed me that he observed one company of the right wing bore no proportion to the others, having only *one* man ill; and, on inquiring into the cause of their exemption from disease, it was found, that, when the troops entered their cantonments, strict orders had been given to prevent their smoking in any of the barns, for the fear of accidents from fire.

'In consequence of this order, it was customary for the men in the evening, after they had thrown off their accoutrements, and many of them part of their dress, to take their pipes and sit under the trees, or rest themselves in other open and exposed situations, where they enjoyed the conversation of their comrades, in some instances probably to a late hour; whilst the men belonging to the company alluded to, being quartered in rather a better description of house, were in the habit of smoking their pipes in a *large kitchen*, with the servants of the Dutch family: *Here* they were *sheltered* from *the exhalations* so prejudicial to health in such climates and under such circumstances, when the constitution was more liable to be acted upon, viz. in a state of inactivity after fatigue or exercise.' p. 343.

'The interesting observation communicated by the surgeon of the 43d, of the comparative healthy state of the company of the right wing over all the others in that regiment, is highly deserving of attention: more real advantage may be derived from the knowledge of a single fact, so stated, than from volumes written expressly on the subject of military diseases: it shows how much depends on the attention of commanding and medical officers of regiments to all the minutiæ connected with their interior economy.

'It was to be regretted that the troops were taken out to exercise before sun-rise. The danger of allowing the men to be *under arms every morning an hour before day-light*, does not appear to have been considered; and it is extraordinary, that after all that had been written upon the subject of preserving the health of soldiers in such unwholesome climates, no precautions seem to have been taken to *guard* against the fatal consequences of exposure to the damp and noxious exhalations.' p. 345.

Next, in regard to the cure—

'From the appearances which were observed in these dissections, we were led to draw the following conclusions;—that the original disorder was of an inflammatory nature, inducing a considerable vascular excitement and determination to particular organs, especially to the liver and spleen; and that the derangements in their functions occasioned those *relapses* or subsequent returns of fever which took place at distant periods and at lengthened intervals, from the original or primary attack.

'In fact, we found that no radical or perfect cure could be obtained until the congestions which had been formed in those important organs were either *lessened* or removed; and by keeping in view the connexion that subsists between the bilious remittents of warm climates, and the remitting and intermitting fevers of our own latitudes, in which derangements in the bilious secretions are so remarkable, a correspondent plan of cure was adopted, and was attended with the happiest result.' p. 360.

'The general plan of treatment at first, was to open the body by means of five or six grains of the submuriate of mercury, with an equal quantity of c. ext. of colocynth, followed up by the senna infusion, and sulphate of magnesia, after which the submuriate and antimonial fluid were given every three or four hours in small doses, and continued, either with or without mercurial friction upon the side, according to the state of the patient and the period of the disorder, or until the mouth became *slightly* affected.

'The warm bath, fomentations, and blisters to the side were also employed, together with an anodyne draught, and occasionally the camphorated mixture, with acetate of ammonia, &c.

'In the *most obstinate cases*, it was found necessary to push the mercurial friction to some length, so as to induce ptyalism; and when there was appearance of remission, the *bark* was given, and *not till* *then*, in the form of decoction, with an aromatic: *wine* was also allowed in small quantities according to the strength of the patient.

'This was the usual method we followed throughout the month of September; but in October and November we had occasion sometimes to use the lancet; and, in the cases of *relapse* particularly, the best effects seemed to follow the loss of blood.

'As we had reason to suspect that these attacks of fever were connected with abdominal inflammation, cupping-glasses were employed in preference, and after fomenting the parts, they were applied either to the region of the stomach, liver, or spleen, where the pain was most complained of, and great relief invariably followed from this topical bleeding.' p. 363.

'When Sydenham complained that he knew of no successful method of treating intermittents, as the *bark*, which had always had the appellation of a specific, rather checked their progress than moved the cause of the disease; those congestions were not suspected which have been shown to exist to a great degree in consequence of the strong determinations to the viscera, which very early take place; and it was not likely that the disorder could be radically cured, until the irritation which they occasion in the system was entirely removed.

'It is not however by *throwing in mercury, and pouring in the bark*, that this effect is to be produced: these are terms to be met with in some late writers, and they are not less improper than the indiscriminate and empirical manner in which those invaluable medicines have been employed.

'The smallest quantity of mercury will often (as it is well known) affect some constitutions so speedily, that it is impossible to lay down any rule for its administration in these fevers.

'I have generally found great advantage to result from its being introduced gradually into the habit, and its action to be rendered more certain by being given in small dozes, and at distant intervals.' p. 283.

'In the distribution of the extra diets, or what are termed *medical comforts*, a discretionary power was given to the medical officer in attendance; but one general principle was admitted by all, and acted upon throughout the establishment; that *wine* and *spirits* were not found to be *absolutely* necessary to the removal of the *Walcheren* fever, as it was called; and that, during the *progress of convalescence*, the management and *quantity of diet* was to be considered of the highest importance in effecting a perfect recovery. A very contrary opinion had long prevailed, and it is the popular one in the army, that the British soldier required more nourishment and more animal food than those of other countries; and hence arose the profuse and liberal allowance of every article that could be thought of, which tended rather to satiate, than to satisfy the appetites of persons recovering from acute disease.' p. 332.

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the PUBLIC DISPENSARY, *near Carey-Street, London, from August 31st to November 30th* **1815.**

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Febris	32	Dysenteria	25
——— infantum remittens	8	Peritonitis puerperarum	1
Apoplexia	1	Variola	9
Hydrocephalus	1	Rubeola	14
Otalgia	1	Scarlatina	30
Cynanche	15	Varicella	2
Catarrhus	80	Erysipelas	2
Pneumonia	22	Arthritis rheumatica	5
Pertussis	5	Rheumatismus	4
Hepatitis	2	Abortus	2
Cholera	4		

CHRONIC DISEASES.

	No. of Cases.		No. of Cases.
Cephalæa	21	Hæmaturia	1
Vertigo	6	Dysuria	1
Asthma	1	Nephralgia	2
Catarrhus chronicus	32	Hysteralgia	4
Hæmoptysis	10	Amenorrhœa	4
Phthisis	21	Menorrhagia	5
Dyspepsia	25	Leucorrhœa	8
Gastrodynia	14	Anasarca	9
Pyrosis	4	Hydrops	3
Vomitus	7	Rheumatismus chronicus	46
Hepatalgia	2	Pleurodyne	3
Icterus	6	Paralysis	4
Enterodynia	16	Asthenia	11
Colica pictonum	1	Hysteria	2
Tænia	1	Chorea	3
Ascarides	1	Epilepsia	4
Hæmorrhois	4	Melancholia	1
Marasmus	8	Struma	2
Diarrhœa	25	Lichen	2

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Lepra	1	Ecthyma	2
Psoriasis	4	Scabies	8
Urticaria	3	Herpes	1
Erythema	2	Rupia	2
Purpura	1	Eczema	2
Impetigo	8	Aphthæ	1
Porrigo	12		

The warm and dry weather which had prevailed during the summer, was protracted to the latter part of October; so that the whole season was remarkably uniform, dry and fine, yet temperate. It was a general observation, in the month of October, that so long a series of fine weather had not occurred for many years. This steady temperature and dryness appears, however, to have been peculiar to the south-east portion of the island; for in the north-west the autumn was unusually wet, and in the north in general showery and cool. In the second week of November, however, the temperature suddenly altered during a hail-storm, and became 20 degrees lower at night than it had been in the morning. From this time, a steady frost, unusual at this early season, has prevailed, until to-day, the 30th, when the thermometer has again suddenly mounted to 50°, having been as low as 26° last night.

The diseases of the patients of a Dispensary who are much exposed to the influence of the weather, are observed to vary much in correspondence with its changes. Accordingly, during the months of September and October, the disordered states of the stomach and bowels, and other affections usually termed *bilious*, which are connected with them, continued to prevail to an unusually late period. Several severe cases of dysentery, especially, presented themselves, accompanied by much abdominal pain and tenesmus, and a very irritable state of the bowels, which appeared to require more soothing, and to bear less evacuation, even when moderated by anodynes, than usual. Opiate enemata were very serviceable, in some cases, in quieting the irritability of the rectum, which sometimes suffered considerably from the acrimony of the discharges.

Most of the exanthemata, but especially the scarlet fever, which generally assumed rather an unfavourable character, have been prevalent during the autumnal months. The measles, though frequently occurring, were not generally attended by those formidable pectoral symptoms, which indeed are always less liable to be severe in the milder seasons. But the small-pox, in some cases, were of the confluent kind, and lamentably prevalent, considering the facilities which are offered to the poor of rescuing their children from this calamity. The variolous inoculators, being chiefly practitioners conversant with the lower classes of the people, seem to have left the minds of these people in a state of confusion, on this subject, almost approaching to stupor. They have scarcely any reason to offer in excuse for their omission to secure their offspring from the contagion; but in the state of doubt into which they have been thrown by contradictory assertions, they neither variolate nor vaccinate, but wait in apathy the casual operation of the contagion. The scarlet-fever was generally accompanied by a severe affection of the throat, which, in many cases, continued to harass the patient after the usual term of the fever had elapsed, and, in several children, appeared to be the principal cause of the fatality of the disease. The simple rash, which yields readily to the cool treatment with little medicine, was seldom seen during this epidemic; and the period, when cold washing seemed to be essentially remedial, was soon over; but laxatives and acids appeared to be more beneficial than the cinchona or cordials. We witnessed only one or two cases of dropsy supervening upon the disease, although the convalescence was in many cases slow.

The only case of hydrocephalus in the list, which exhibited symptoms of the commencement of pressure, when it was first visited, terminated in recovery. The child, an intelligent boy of eight years of age, with light hair, and large blue eyes, had been ill ten days with fever and headach, the latter of which had considerably increased, and had been accompanied at first with intolerance of light and noise. When he was visited from the Dispensary, he was lying in bed, with a rapid pulse, partially flushed countenance, dilated pupils, and extreme pain in the head, so that he screamed upon being moved, or even upon the apprehension of being moved. He was nearly, if not entirely blind, and there was a perceptible disposition to strabismus. The bowels had been slightly opened by medicine. A purge of calomel and jalap was ordered immediately; the head to be shaved, and cloths instantly wetted with water and a little æther to be applied to the scalp; the temples were bled with leeches; and as effusion appeared to have commenced, half a drachm of mercurial ointment was ordered to be rubbed in twice a day. On the following day, a very marked amendment was perceptible; the boy could bear to be moved gently, and said his head was better. The leeches were a second time applied, and the purgative repeated, and the friction was continued about ten days; during which there was a progressive and rather rapid diminution of the symptoms; the sight returned about the third day, with the cessation of the headach, and soon became perfect; and he was discharged in a fortnight in complete health. The speedy relief to these formidable symptoms, which ensued upon the adoption of this treatment, is obviously to be ascribed exclusively to the evacuant and refrigerant remedies, and not to the influence of the mercury, the operation of which was necessarily too tardy to produce so rapid a change; and it may serve as an intimation, not to omit the use of evacuants, even when we are called to treat hydrocephalus at a period when the stage of effusion appears to have commenced. T. B.

Bloomsbury Square, November 30, 1815.

Observations on the Generation of the Guinea-Worm. By George Thomas Heath, late Surgeon of his Majesty's Ship Psyche.

As it appears by Dr Chisholm's paper on Guinea-worms, published in your last Number, that the *mode* in which those animalculæ obtain admission in the human frame, is by no means clearly ascertained, I beg leave to submit the following facts, which may, perhaps, somewhat elucidate this obscure subject.

His Majesty's ship Psyche had been in Bombay dock and harbour during the first three months of the year 1808. In April she sailed from thence, and in three months afterwards, being then in the Persian gulf, two of the men were found affected by Guinea-worms; others also complained at various intervals; and, in the course of a twelvemonth from quitting Bombay, eight men in the whole had them.

From this period (April 1809) to the end of the year, 74 persons were put on the sick-list with those worms, some of whom had them two, three, four, and even five times, the worms issuing at different periods from various parts of the trunk and limbs. The length of the worms varied from nine to forty-two inches. Not one of the officers was at any time affected by them.

The alarming prevalence of those worms, the very distressing effects and long confinement in many instances induced, excited considerable interest on board, and caused every inquiry to be made, in order to obtain information on a subject of such importance.

As officers and men had been equally on shore while the ship was in dock at Bombay, had drank of the *same water* there, and of the same stock taken to sea, we could not believe that the worms, or their embryos, were introduced through the medium of the water drank. The only way in which we could account for their introduction and exclusive confinement to the seamen, was by supposing that the worms, in a minute or embryo state, penetrated the exposed skin of the men, who usually went about without any other coverings than a hat, a shirt, and trowsers, while the officers, who were properly clad, and generally wore boots or gaiters, were thus shielded against them.

The idea of contagion having been suggested, it may not be improper to add, that three drafts of recently impressed men, and a detachment of his Majesty's 56th regiment were received on board, while the worms were most prevalent, without any one of them receiving the disease; and I may add, that two of the Psyche's men were discharged in two other of his Majesty's ships, where they both had Guinea-worms, without communicating the disease to any other person.

47, *Hoxton Town, April* 25, 1815.

Case of very extensive and unexplained Fracture of the Ribs.

By Mr Lyon, Surgeon, Paisley.

A. B. a lunatic, was a patient in an hospital, but his relations, wishing to take him under their own care, obtained his discharge. With assistance he walked about twenty yards from the hospital, entered a chaise, and was carried two miles into the country. On the 7th day after his departure, a physician was called to him, who informed me that he found the sternum and many of the ribs fractured, and the patient in a most distressing state, from difficulty of breathing, pain, cough, and other symptoms consequent to the injury. The physician under whose care Mr B. had been while in the hospital, having been informed of his melancholy situation, requested me to visit and examine him. Accordingly, on the 10th day after his departure from the hospital, I went to his relation's house, and, on inquiring for him, was told that he had died about two hours before my arrival. I was permitted to examine the body of the deceased, and found the thorax in a horrid condition, to use his relation's words, 'like a shattered basket.'

The body was examined the day after death (30th March 1809) in the presence of some friends.

The substance of the brain was uncommonly firm; appearance of inflammation general over the cerebrum and cerebellum; effusion under the membranes of the brain; ventricles filled with water.

While the integuments of the thorax were removing, at various parts where the ribs were fractured or separated from their cartilages, a fluid, in some places like pus, in others like bloody sanies, oozed out. The sternum was completely fractured transversely at its juncture with the third and fourth ribs. On the left side, the second and third ribs were fractured in two places, and the last was also separated from its cartilage;

the fourth and fifth ribs were fractured at one place near the sternal extremity; the seventh rib was fractured at its vertebral extremity, and the eighth was separated from its cartilage.

On the right side, the fourth, sixth, seventh, and eighth were fractured, and the fifth rib was separated from its cartilage.

Five English pints of a nearly transparent fluid were collected from the cavities of the thorax. The membranes on the convex surface of the right lung were destroyed for about the space of three or four inches; and the adhesion between the lung and the *pleura costalis* opposite the fifth rib was so strong, that a separation could not be effected without boring or cutting. The sharp end of the dorsal portion of the rib penetrated and adhered to the lung. On separating the adhesion, a small quantity of pus appeared. The left lung also adhered to the pleura, and the end of the fractured fifth rib likewise penetrated its substance. The pleura and mediastinum were highly inflamed, and various other adhesions between them and the lungs had formed. The heart and abdominal viscera were in good condition.

Diary of the Weather on the Northern Coast of the County of Antrim.

1814.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	
Fair - -	15	10	13	12	25	17	11	4	23	10	7	9	156	365
Wet - -	2	4	4	1	0	1	4	7	1	9	11	10	54	
Showery -	14	14	14	17	6	12	16	20	6	12	12	12	155	
Fog - -	2	2	2	5	1	7	3	8	2	4	2	2	40	
Snow, Sleet, &c.	29	10	10	3	0	0	0	2	0	6	11	13	84	
Frost - -	21	8	6	0	0	0	0	0	0	0	2	10	47	
Stormy -	6	6	3	3	2	3	2	7	4	6	12	11	65	
Barometer -	29^{9}	30^{1}_{10}	30^{2}	30	30^{3}	30^{3}	30	30	30^{1}	30^{1}	30	29^{8}	Morn.	
greatest height	30	30^{3}	30^{2}	30	30^{3}	30^{3}	30	29^{9}	30^{3}	30^{1}	30	29^{9}	Even.	
Barometer -	28^{6}	28^{9}	28^{5}	28^{9}	29^{4}	29^{5}	29^{2}	29^{3}	29	28^{9}	29	28^{3}	Morn.	
lowest - -	28^{3}	29^{1}	28^{6}	28^{9}	29^{4}	29^{6}	29^{5}	29^{3}	29^{2}	28^{9}	28^{9}	28^{9}	Even.	
Thernometer	40	45	48	54	56	59	64	62	60	54	51	45	Morn.	
greatest height	43	45	49	55	57	60	66	65	61	57	50	46	Even.	
Thernometer	20	31	34	45	42	48	56	56	47	47	38	33	Morn.	
lowest - -	25	34	34	45	44	48	57	57	49	48	36	34	Even.	
Wind -	S. 15	S. 16	E. 14	S. 17	E. 13	E. 13	S. 21	S. 18	S. 17	S. 16	N. 10	S. 15	Morn.	
	N. 11	S. 13	S. 14	S. 13	E. 14	E. 11	S. 17	S. 14	S. 14	E. 8	N. 9	E. 12	Even.	

Thunder and Lightning.—One day in May, two in July, and one in August.—Total, 4.

The observations are taken by Fahrenheit's Thermometer, and removed from the influence of either sun or fire.

The figures in the line Wind denote the number of days it blew in that direction.

N. B. Snow began to fall on the 3d of January, and was not completely thawed, until the 29th of March, continuing on the ground for 85 days.

Annual Meteorological Table for Si

1814.	Thermometer, N. exposure.												
Months.	Day.	Highest by Six's register.	Wind.	Day.	Lowest by Six's register.	Wind.	Mean of the extremes.	Mean of the highest.	Mean of the lowest.	Mean of highest and lowest.	Mean of 9 morning.	Mean of 2 afternoon.	Mean of 9 morn. and 2 afternoon.	Mean of 11 at night.
Jan.	29,	44°	N. W.	21,	18°	N.	31°	35°	29°	32°	32°	35°	33°	31°
Feb.	8,	53	W. S	21,	23	N. E.	38	43	33	38	36	42	39	36
March	27,	54	S. W.	7,	27	N. E.	40	44	35	39	38	43	40	37
April	13,	63	N.	4,	35	N.	49	56	43	50	50	54	52	45
May	26,	67	S.	11,	38	E.	52	61	44	52	51	57	54	46
June	30,	75	S.	7,	43	S. E.	59	66	51	58	60	63	61	52
July	25,	76	S. E.	2,	47	S. W.	61	71	55	63	66	69	67	56
August	4,	76	S.	28,	46	N.	61	70	54	62	63	68	65	55
Sept.	1,	73	S.	10,	42	S. W.	57	66	50	58	60	63	62	52
October	14,	61	S.	9,	33	N.W.	46	55	44	50	49	54	52	46
Nov.	14,	57	N.	21,	25	N.W.	41	49	39	44	43	47	45	43
Dec.	11,	57	S. W.	26,	28	N. E.	42	48	40	44	43	46	44	42

Thermometer.

Highest by Six's Register - -	25th July	76°
Lowest by ditto in the night - -	21st Jan.	18°
Mean of the extremes - -		48°
Mean of the mean of the highest -		55°
Mean of the mean of the lowest - -		43°
Mean of these two - -		49°
Mean of observations at 9 morning -		49°
Mean of ditto, 2 afternoon - -		53°
Mean of 9 morning and 2 afternoon -		51°
Mean of observations at 11 night - -		45°
Mean of 9 A. M. 2 P. M. and 11 P. M. -		49°
Greatest variation in 24 hours -	Dec. 19th, 20th,	17°

Mean te

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I send for insertion in your Journal the Annual Meteorol
and admits of a much better comparison with accounts kept
pared with observations made at the Royal Society; but as t
any further, be defective. The rain is given only for eleven
of January last has excited so much attention, I shall make s
which commenced in London on the 27th of December did
all these days are marked fine. In the morning of the 2d
which continued the whole of the next day, and was succee
night of the 1st, it had not before, since the morning of the
this, the thermometer continued below the freezing point fro
commenced, still freezing hard every night to the 27th. Th
gales from the S. E. which drifted the snow to the depth of s
ing of the 10th it stood at 20°. In the night of the 21st it re

Sidmouth, 5th February, 1814.

Annual Mete

1814.	REGISTER T				
Months.	Day.	Highest in the day.	Wind.	Day.	Lowest in the
January	28,	37	S. W.	13,	
February	10,	46	S.	5,	
March	28,	56	S.	5 & 7	
April	14,	69	S. W.	5,	
May	20,	67	E.	10,	
June	14,	74	S.	8,	
July	28,	83	Calm.	1,	
August	30,	76	W.	18,	
September	18,	76	S.	15,	
October	14,	63	S.	9,	
November	14,	51	S.	22,	
December	18,	54	S. W.	9,	

Thermometer.

Highest - July 28th
Lowest - Jan. 15th
Greatest variation, Dec. 9th & 10th
Range in the year -
Mean for the day - 5
Mean for the night - 3
Annual mean - 4

On Sunday evening the 11th September, there appeared a splendid arch of Aurora Borealis, noticed in most of our newspapers; but on the evening of the 4th November, a similar arch appeared in the north, which, though not quite so magnificent, seems not to have been remarked by any person except by those in this immediate neighbourhood. It first appeared between five and six in the evening, and was entirely gone before half after seven o'clock.

The months of November and December were very remarkable for great fluctuations in the barometer.—On the 16th December, the mercury rose one inch between nine o'clock in the morning and nine at night.—During the night of the 15th, it fell 9-10ths of an inch.

A Report of the Sick and Hurt during one Year on board a Sloop of War, Complement 125 *Men.*

NAMES.	ACUTE DISEASES.					
	No.	Cured on Board.	Sent to Hospital.	Invalided.	Dead.	Remaining not Cured.
Febris - -	11	9	1	0	1	0
Catarrhus (Acutus) -	14	14	0	0	0	0
Cynanche Tonsillaris	1	1	0	0	0	0
Pneumonia - -	7	6	1	0	0	0
Rheumatismus (Acutus)	3	1	2	0	0	0
Arthritis Rheumatica	1	0	0	1	0	0
Dysenteria - -	3	3	0	0	0	0
Cholera - -	1	1	0	0	0	0
Gastritis Phlegmoid.	2	2	0	0	0	0
Ophthalmia - -	1	0	1	0	0	0
	44	32	5	1	1	0
	CHRONIC DISEASES.					
Catarrhus (Chronicus)	2	0	1	1	0	0
Phthisis - -	2	0	2	0	0	0
Rheumatismus (Chron.)	5	0	0	5	0	0
Dyspepsia - -	2	0	1	1	0	0
Pyrosis - -	1	0	0	0	0	0
Hepatalgia - -	1	0	0	0	0	0
Hepatitis (Chronicus)	1	0	1	0	0	0
Diarrhœa - -	5	5	0	0	0	0
Hæmorrhois -	3	2	1	0	0	0
Lumbago et Sciat.	4	2	0	2	0	0
Anasarca - -	1	1	0	0	0	0
Psora - -	10	10	0	0	0	0
Convulsio - -	4	0	0	0	0	0
Auralgia - -	1	0	0	0	0	0
Asthma et Dyspnœa	2	0	2	0	0	0
Vertigo - -	1	1	0	0	0	0
Cephalæa - -	1	0	0	0	0	0
	46	21	8	9	0	0

NAMES.	DISEASES IN SURGERY.					
	No.	Cured on Board.	Sent to Hospital.	Invalided.	Dead.	Remaining not Cured.
Syphilis { Prim. Symp.	7	4	3	0	0	0
Syphilis { Second. ——	2	0	1	1	0	0
Gonorrhœa -	9	6	3	0	0	0
Gunshot wounds -	1	1	0	0	0	0
Injuries of the head	5	2	2	0	1	0
———— thorax	3	2	1	0	0	0
Phlegmon - -	6	6	0	0	0	0
Whitlow - -	4	4	0	0	0	0
Contusion - -	9	9	0	0	0	0
Luxation - -	3	3	0	0	0	0
Fractures - -	4	4	0	0	0	0
Scalds and burns -	5	5	0	0	0	0
Ulcers, Mammillar.	1	0	0	0	1	0
Ulcers { irritable -	5	2	3	0	0	0
Ulcers { indolent -	3	1	0	2	0	0
Wounds - -	6	6	0	0	0	0
Amputation of the finger	2	2	0	0	0	0
Hernia, Inguinal -	3	0	0	3	0	0
Erysipelas phlegm.	4	3	0	1	0	0
Fell over-board -	3	1	0	0	2	0
	85	61	13	2	4	0
Grand Total -	125	119	26	12	5	8

There was nothing uncommon in the nature of the service on which the ship was employed at the time these diseases occurred. The stations were the Bay of Biscay, and coast of Newfoundland. A considerable number of the men had lately entered the service, amongst whom several cases of fever appeared, chiefly of the low kind. The depression of spirit in men newly impressed, I have some reason to believe, often excites the appearance of low febrile action. In one case treated under my care, and which terminated fatally, I was unable to assign any other cause than incessant sorrow, produced in the mind of the unhappy man, on being torn from his friends and relatives.

In cases of pneumonia, I remarked the happy effects produced by extracting blood, in very large quantities. In any important case, I have frequently taken away twenty-eight ounces with great relief, and without bringing on syncope. On an early complaint, I have extracted blood to a large amount, even more than what the symptoms present would seem to indicate, with a speedy return to health. I have also been told by several enlightened surgeons, that they followed a similar practice, but bled at first to a greater extent.

A case of chronic hepatitis occurred, in which I had an opportunity of observing an extreme lentor of the circulation connected with accumulation, and symptoms which indicated a degree of inflammation not very inconsiderable. I endeavoured to point out the great necessity that existed for extracting a moderate quantity of blood, but by reason of objections from a certain quarter, I was not permitted to do this. However, the patient being sent to Deal Hospital, I had the pleasure of seeing what I had recommended in vain, practised with the greatest relief. It was, in this case, a singular circumstance to observe, *first*, an extreme slow feeble pulse, languid and dejected appearance; *secondly*, the great and revivifying effects produced on the first blood-letting, which amounted to twelve ounces.

Four cases of erysipelas phlegmonoides appeared at a period when we had been a considerable time on salt provisions. The persons affected were of an irritable constitution naturally, which was increased to a great degree, by the unavoidable peculiarities of a naval life. Cold applications agreed best with these complaints in the first stages; and spirituous ones in the last.

August 26, 1815.

Dr W. Philip has presented to the Royal Society of London the Third Part of his Experiments and Observations on the Relation which subsists between the Sanguiferous and Nervous Systems. This part relates chiefly to the nature of secretion, the use of the ganglia, and the cause of animal temperature. It appears from the experiments related in it, we understand, that secretion, as several authors have supposed, is wholly a function of the nervous system, the vessels only supplying the fluids to be operated upon; that the combination of the influence of the whole brain and spinal marrow, by means of the ganglia, is necessary for the due performance of secretion, thus demonstrating why it is necessary to combine the influence of these organs; that galvanism is capable of performing the more complicated as well as the more simple functions of the nervous influence, from which he infers its identity with that influence, and that the evolution of caloric from the blood, which supplies animal temperature, is occasioned by the same laws by which the secreted fluids are prepared, and consequently must be regarded as a secretion. It appears from his experiments, we are informed, that the evolution of caloric from the blood is little, if at all, connected with the change of colour from that of arterial to that of venous blood.

On Premature Births. By a Physician Accoucheur.

Dr RODMAN, p. 455 of the last Number, has given a very instructive narrative of his judicious and praiseworthy endeavours to preserve the life of a promature infant, who was born particularly feeble and debilitated.

From the report of its mother, Dr Rodman believes that this child, at the time of its birth, had not attained quite 19 weeks of uterine gestation; he admits, however, the probability of scepticism on this point, and I must confess that I am one of the sceptics.

My reasons for differing in opinion from Dr Rodman are drawn from the dimensions and weight of this infant, compared with those of others at a similar period of pregnancy.

Dr Rodman informs us, that at three weeks after its birth, the child measured *thirteen inches*, and weighed *one pound thirteen ounces avoirdupois.* Now, it must be supposed, that, during the first three weeks after its birth, the child could not have increased much either in length or weight, for 'it was extremely difficult to get it to swallow nourishment the first week;' 'the yellow gum soon came on;' 'the thrush seized him by the eighth day,' and was not cured till the end of the third week. We may therefore fairly infer, that the child, at this period, could not be so large as if it had passed those three weeks in the womb. It remains then to be inquired, what ought to be the size and weight of a fœtus at twenty-one or twenty-two weeks after conception?

Mr Burns, in his Principles of Midwifery, first edition, p. 116, says, that in the fourth month the fœtus is about five inches long; in the fifth month, six or seven inches; in the sixth month, eight or nine inches; in the seventh, eleven or twelve; in the eighth, about fifteen inches.

M. Gardien, an eminent accoucheur at Paris, in his Traité d'Accouchemens, Tom. I. p. 481, gives nearly the same dimensions. He says, at two months, the fœtus measures rather more than two inches long; at three months, three inches and a half; at four months and a fortnight, four inches and six or eight lines; at five months, seven inches and a half; at six months, nine inches six lines; at seven months, eleven inches.

According to these scales, therefore, it appears that Dr Rodman's fœtus, at *twenty-two weeks* after conception, measured considerably more than is usual for infants at *seven months*.

The weight of the fœtus likewise was greater than common. Mr Burns says, that the ordinary weight of a fœtus in the *sixth month* is *one pound Troy*; but the infant in question, at *twenty-*

two weeks, weighed *one pound thirteen ounces avoirdupois*, which is more than double the weight stated by Mr Burns.

Upon the whole, it is to be wished that this matter should be reconsidered; for if the authorities I have quoted are to be relied upon, there must be a very considerable error in the account given to Dr Rodman. Should that intelligent physician have time and opportunity of pursuing this curious and interesting inquiry, he will doubtless be enabled to throw much light upon a subject at present very far from being well understood.

London, *October* 11, 1815.

The following law report, inserted in the Morning Chronicle, 9th December 1815, is worthy of attention, as a confirmation of a similar opinion given by the Court of King's Bench a few months ago.

'The King *versus* John Taunton. This was an indictment against the defendant, a surgeon, for inoculating children with the small-pox, and causing them to be carried to and from his house, through the public streets, while labouring under that disease.'

The trial, however, was allowed by the Attorney-General to stand over, partly in consequence of the absence of the senior counsel for the defendant, and partly in consequence of a promise from the latter, that he would desist from this pernicious practice. But Mr Justice Bayley, in granting this permission, gave the following exposition of the law.

'I hope it is sufficiently notorious, that the *causing* persons to *pass through the streets*, who may have that disorder (small-pox) upon them, *although they are going for medical advice* to some person in whom they have confidence, is *an indictable offence*; and if *that person*, instead of attending them at their own houses, as he might do, chooses to direct that they shall from time to time be brought or come to him, there is no question but that *he* is *liable to an indictment*.'

The Attorney-General added, 'The few sentences which your Lordship has now pronounced, are of the highest importance to the community.'

We are glad that opinions, which we have long considered as founded in common sense, should be declared by such high authority to be equally founded in law. In most countries on the Continent, even before the discovery of cow-pox, inoculation was subjected to certain restraints; and, since vaccination has been known, it has been utterly abolished. In Britain alone, from a false notion of liberty, has the pestilence been perpetuated and disseminated by a set of interested individuals. But the liberty of doing mischief is not the birth-right of any man; and, with the precedents afforded them by the highest authority in the land, we trust that Magistrates, in every part of the country, will prosecute inoculators, indifferent about the lives of their neighbours, with all the severity necessary to put an effectual stop to the commission of a nuisance of so aggravated a nature.

A Society has lately been formed in Worcester, under the name of 'The Medical and Surgical Society of Worcester,' consisting of about 50 members, and including almost all the medical men of the city and county, which meets once a month. Its objects are the dissemination of Medical Knowledge amongst its members, the discussion of points of practice, and the keeping in the view of its members the principles of the profession. Each member, in his turn, gives in a subject of conversation, to which the attention of the Society is confined for one or more meetings, according as the subject is more or less important and interesting. The Institution admits of honorary and corresponding members, in the hope of receiving communications from medical men who reside at too great a distance to attend its meetings.

New Publications.

In the Press, and shortly will be Published, Rudiments of the Anatomy and Physiology of the Human Body, in a Series of Progressive Lessons, consisting of several Tables, &c.; accompanied with appropriate Explanations. Designed for the Use of Students of Medicine, at the Commencement of their Anatomical Inquiries. By T. J. Armiger, Member of the Royal College of Surgeons in London, &c. late Demonstrator of Anatomy at the London Hospital.

Young on Consumptive Diseases. 8vo. 12s.

Elements of Pathology. By Dr Parry of Bath. 8vo. 14s. T. Underwood, 32, Fleet Street.

ERRATA.

Vol. XI. Page 431, line 1, between the word *should* and *differ* insert *not.*
— 449, line 29, *for* know *read* one.

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††† Communications have been received from Mr Crawford, Mr Edmondstone, Mr Moore, Mr Murray and Mr Barlow.

*** Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; Messrs Longman, Hurst, Rees, Orme, & Brown, London; and John Cumming, Dublin.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Medical Topography of New-Orleans; with an Account of the principal Diseases that affected the Fleet and Army on the late Expedition against that City. Communicated by a NAVAL SURGEON.

> "Ceterum antequam destinata componam, repetendum videtur qualis status urbis, quæ mens exercituum, quis habitus provinciarum; quid validum, quid ægrum fuerit; ut non modo casus eventusque rerum, qui plerumque fortuiti sunt, sed ratio etiam caussæque noscantur."—TACIT. *Histor.*

EVERY lover of medical literature, and of medicine as an experimental science, must deeply regret, that, though the expeditions undertaken by Great Britain, within the last hundred years, have been both frequent and formidable, there has been such a poverty of professional communications, that a good medical history of the greater part of them is now, and ever must be, a *desideratum.* While the policy and execution of such armaments are discussed in hundreds of newspapers, and give birth to clamorous pamphlets without number; medical facts and observations, which, instead of a shifting and transitory interest, may be of permanent importance to mankind, are allowed to float down the silent current of oblivion, till they are lost for ever. It is painful to reflect how much this supineness of professional men has cost our art, and how rich a tract, fertile with knowledge and improvements, has thus been given up, without resistance, to the inundations of the river *Lethe*, whose waters (in this instance it may be said, without epigrammatic quaintness) have preserved straws and trifles, while things of specific and sterling weight have sunk to the bottom without a hope of recovery.

In the late expedition against New-Orleans, what from the sword and from disease, there was such a loss of human life, as must cause the mere politician regret, and the philanthropist affliction. Such being the case, it will not, I hope, be considered as presumption in me, to attempt some account of the complaints that occurred; an attempt which, however feeble, may in some degree compensate for the want of a better. I could, indeed, have wished that some one of greater talents, and with better means of official information than myself, had executed this undertaking, and would now willingly lay aside my pen in expectation of such an event, did I not recollect that, by every individual's thus shuffling off the task of description from himself, in the vague hope that it may be performed by another, that very detriment to medical science has arisen, of which I have just complained.

New-Orleans is situated in 30 degrees of north latitude, and 90 of longitude west from London. It stands on the left bank of the Mississippi, about 100 miles from its mouth, and may justly be regarded as the capital of this district of the New World, from its commerce, its opulence, and its population. It is the great emporium into which the scattered inhabitants of the upper country, and the surrounding desert, pour their cotton and their skins, receiving in return many of the necessaries of life, and some of the luxuries of refinement.

The river Mississippi forms a most august feature in the physiognomy of this country. While the majestic grandeur of its stream, and its *unexampled* length of course, excite the admiration of the naturalist, and its subserviency to the purposes of commerce claims the attention of the merchant, it is no less interesting to the medical philosopher, from the direct and conspicuous influence which the distribution of its waters has upon the soil and the health of the country around its mouth. This magnificent river has its source in the remote and almost unknown regions of the American continent. Slender in its origin, the infant flood is interrupted by mountains, and broken by cataracts, until it receives the proudly independent (rather than tributary) streams of the Missouri, the Illinois, and the Ohio, when it rushes irresistibly forward to the ocean, with a current both broad and deep. Pursuing its course with innumerable sinuosities, through fertile meadows, over whose vast extent the tired eye cannot stretch,—through sequestered regions where nature has no one to witness her awful mysteries,—and through the gloom of forests coëval with the creation, it at last, after a course of *three thousand miles*, pours, by several mouths, the mass of its weary waters into the gulf of Mexico.

The country around New-Orleans is a perfect plain, frequently intersected by the outlets of the river, and not unfrequently, during winter and spring, watered by its inundations. Indeed, the city itself is built upon what may be called a *Delta*, formed by this *Nile* of the Western World. In a country of this description, it will easily be conceived, that marshes are very numerous and extensive; in fact, the whole country, especially in winter, is a continued marsh, with merely solid patches (very fertile indeed) here and there. The few roads, and the site of the different forts, are generally *made-ground*.

Even the ground on which the city stands, bears evident marks of comparatively recent formation; for, on digging a few feet under the surface, abundance of water, soft mud, and trunks of trees are met with. These last have no doubt been flooded down, and stranded by the current, where receiving hourly reinforcements of vegetable rubbish, the whole has been bound into one immoveable mass by the viscid mud of the river.

The climate, too, of New-Orleans must not be overlooked, as its peculiarity, co-operating with the above-mentioned distribution of the Mississippi and the condition of the soil, is the real and only cause of those formidable diseases to which this city and its vicinity are subject. It is one of the anomalies of the New World, not yet very satisfactorily accounted for, that the intensity of the heat in summer, and of the cold in winter, is much greater than in the Old World, on the same parallels of latitude. This difference is very obvious all along the eastern shores of the American continent, but nowhere is it so striking as at New-Orleans. From the end of November till the end of March, the weather is generally cold and rainy, with frequent hard frosts. At those times the thermometer ranges from 20° to 40° in the shade; and there are instances, I am told, even in so low a latitude as 29° north, where, in the night, it is only a few degrees above Zero. On the contrary, during summer this climate has all the characteristics of the torrid zone; the thermometer stands at 87° or 90° in the shade. At New-Orleans, especially, the weather is close and suffocating, from its distance from the sea, and, consequently, the entire absence of that inestimable luxury of a tropical climate, the *sea-breeze*; from the air being loaded with watery vapours; and from the smell of the mud of the river and swamps, which is often, even in winter, very sensibly offensive.

The description here given of the climate and soil of New-Orleans will apply, almost without alteration, to the contiguous district of the Floridas. In the former, indeed, there are traces of human care and refinement; but, in the latter, Nature still pours forth her gifts in solitary and unprofitable exuberance. Never did I see a shore more inauspicious and uninviting. The whole country is a dreary flat, indented with stagnant creeks, salt-water lagoons, and muddy rivers, whose waters are concealed by the darkness of endless woods, that approach to the very brink of the sea, as if envious of its dominion. Here there is no variety,—no eminence to relieve the eye while wandering over the insipid level of dingy green,—not a single appeal to human feelings,—not one object to call forth those mixed undefined associations of interesting simplicity, domestic content, happy industry, and cheerful civilization, which constitute the charm of the rural landscape in Europe. On the contrary, the whole scene suggests vague impressions of solitary terror, and savage wildness, and presses home upon the heart the chilling ideas of dereliction and desolation. *

The local peculiarities in the climate and soil of New-Orleans give rise, during winter, to epidemic dysentery, and, in summer, to marsh fevers of a very rapid and dangerous form, from which the inhabitants, but particularly strangers, suffer most severely. The occurrence of such complaints, some readers, from the above detail, will be prepared to expect as a *necessary* consequence. Lest others, however, should be sceptical, it shall be my business, by and bye, to make this preliminary picture of the medical topography of the country subservient to discussions of higher interest, and to prove, by facts, the reasonableness of opinions.

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* I am sorry that my account of this district is so entirely opposite to the published opinions of the venerable traveller, M. Chateaubriand. In hyperbolical raptures, and in the very pith of sentimentality, has this amiable enthusiast declaimed about "the oaks of Florida,"—"the spirit of the desert,"—"the pleasures of an Indian camp,"—and all the delightful *et cæteras* of a savage life!!——'Tis indeed passing strange. But, "De Gustibus," &c.

“Hoc opus exiguum *vario sermone* levemus,
Perque vices aliquid quod tempora longa videri
Non sinat; in medium vacuas referamus ad aures.”—Ovid. *Metam.*

About the middle of November 1814, the expeditionary force destined to act against New-Orleans arrived at Jamaica, under the command of Vice-Admiral the Honourable Sir Alexander Cochrane. That island had been pitched upon as the pivot of extensive military operations against the southern shores of the United States; and the whole fleet of ships of war and transports having rendezvoused there, took their departure from Negril Bay, at the west end of the island, about the end of November, full of health and hope.

Before the middle of December, the fleet arrived on the coast of Florida, and took steps for disembarking the troops without delay,—a measure against which Nature seemed to have opposed ample and almost unsurmountable obstacles. It would have been desirable for the fleet to have proceeded up the main channel of the Mississippi, by which an approach to the town would have been secured; but, besides lesser shoals, its mouth was secured by a bar, having only 10 feet water, over which none of the frigates, and very few of the transports, could pass, however lightened. Besides, at that season of the year, the river being swollen with rains, the current was running strong down. Its tortuous course, too, would have required a great variety of winds to make good the passage of an hundred miles up; and its principal *detours* and elbows were defended by Port Placquemaine, and other batteries of great strength.

This point of approach being out of the question, the fleet, passing betwixt two sandy uninhabited isles, in a very intricate navigation, made its way into the *gorge* of one of those broad salt-water lakes (considerably to the left of the river’s mouth) that runs a length of way into the country, and embraces one of the minor outlets of the Mississippi. The water, however, was so uniformly shallow, that the frigates and transports grounded in the mud, at the distance of 70 miles from the nearest point of the Delta on which New-Orleans stands; and, consequently, all disembarkation was, of necessity, conducted at this disadvantageous distance. Moreover, the passage of this lake was obstructed by five large American smacks or gun-vessels, mounting several heavy guns each, and admirably adapted, from their build, for operating in those shallow waters.

The latter vexatious obstacle, however, was soon conquered by our sailors, who shewed, on this occasion, all that “*aes tri* *plex,"*—that careless characteristic valour for which they are so illustrious. The boats of the fleet, manned and armed, were sent away, and, after a tiresome row of 36 hours, succeeded in penning the enemy up in a creek, where they attacked them against the superior odds of their position and their force, and, after a furious engagement, captured every one of them. This achievement was decidedly gallant, and would have stood amidst the most brilliant feats of naval warfare, had not the subsequent failure of the main object of the expedition thrown a bleak shade over its lustre.

The wounded on this occasion belonging to the different ships were not very numerous. The only thing I find worthy of commemoration was the rather unusual number of instances of tetanus supervening to the wounds, although the weather was dry, frosty, and apparently favourable to their healing. One case of marked tetanus, I understand, was successfully treated on the stimulating plan; but my information is not sufficiently precise to admit of particulars.

The landing of the troops was conducted by the boats of the ships of war and transports; but the distance was so great, and the weather so tempestuous, that it was the latter end of December ere the whole army was disembarked before New-Orleans. Even when this important object was achieved, there was little or no remission of toil to the sailors, for the army still required to be supplied with warlike stores, and fed from the fleet, at a distance of 70 miles.

About the beginning of January (1815), bowel-complaints, which had previously appeared amongst the boats' crews and the fatigue-parties of the army, began to be very rife. They varied in degree of severity, from the milder symptoms of dysentery to its most aggravated forms. I may enumerate, in a few words, the symptoms of this disease. The patients, for the most part, complained of severe tormina, tenesmus, scanty bloody dejections, want of appetite and strength, *pains all over them*, and a disposition to vomit on taking either food or drink. The tongue was white or yellow; the eye languid; the pulse above 100, small, and easily compressed; the skin often dry, or covered with clammy sweat, but always considerably increased in temperature.

The causes were, generally speaking, obvious enough. The men had been rowing all day, and sleeping all night in the open boats. They had incautiously drank the brackish water of the lakes, and had sometimes been obliged to eat their beef and pork raw, when, on an emergency, they were deprived of an opportunity of cooking it. They were often drenched with rain or with spray, without being able to put on dry clothes. Added to all this, the weather was extremely cold, particularly in the night, the thermometer before sun-rise being often as low as 25 or 26 degrees, rising no higher during the day than 30 or 38 degrees, and seldom above 50°.*

The locality of the general rendezvous for the boats was very bad (though the best that could be found), being a miry place, covered with reeds, and abounding in miasmal exhalations.

The encampment of the army, too, was on a swampy spot on the left bank of the Mississippi, about six miles below New-Orleans. Indeed, the whole vicinity is a swamp, which, after the rains, so frequent at that season of the year, became a perfect puddle. Having the Mississippi on their left, they drank its discoloured and polluted water, and were exposed to the effluvium of its slimy mud, as well as to the paludal exhalations of an impracticable wooded morass on their right. The huts also in which the troops were sheltered were far from being impervious either to rain or cold; so that, upon the whole, the army and navy, in point of privations, were much upon a par.

On the first appearance of dysentery, its treatment was commenced by a flannel roller bound tight round the abdomen, and ordering flannel clothing next the skin, if the patients had it not already. Saline cathartics, or oleum ricini, with a few grains of calomel, were repeatedly given, until the stools were increased in quantity, and more freely rendered. At the same time, plentiful dilution, with tepid gruel, warm tea, rice-water (seasoned with sugar and *a little* wine), decoctions of lintseed or of gum-arabic, I always considered of primary importance.

When the primæ viæ had been fully evacuated, an attempt was made to restore the natural secretions, and open the pores of the skin. Antimonial powder, with opium, was employed for this purpose, but more generally the pulvis ipecacuanhæ compositus, which certainly seemed to succeed best.

Whenever tormina and straining returned worse than ordinary, a cathartic was given in the morning, followed by a large dose of opium, or an anodyne diaphoretic at night.

By these means, aided by perfect quietude, repose, and low diet, the pyrexia soon disappeared, and nothing remained but debility and irregularity of the bowels, which were to be removed by the Mistur. cret. c. opio, the Infus. quassiæ excels., or the Mistur. cinchon., given thrice or four times a-day, and a gentle laxative once in three or four days.

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* These observations of the thermometer are repeated from my own inspection. On this occasion the cold was so intense, that several of the boats' crews were incapacitated for some days, by pain and numbness of the lower extremities. Many soldiers of the negro regiments had their feet frost-bitten, and lost their toes by the consequent gangrene and sphacelus. Some of them even died in the camp, or in the boats, from excessive cold.

Many of the earlier and milder cases yielded to this treatment, but those of a severer sort required measures less inert. In these malignant forms of the disease, I began by giving a strong saline or lubricating cathartic. Blood-letting also was practised when the patients were young and robust, or, indeed, whenever the force of the pulse and pyrexia seemed, on general principles, to justify it. I never saw cause to repent of this evacuation. Practised with prudence, it often moderated local pain of the abdomen, and did not perceptibly increase the subsequent debility. These preliminary steps being taken, I immediately commenced the use of *calomel*, and pushed on boldly to salivation, from the belief, which seems to be well founded, of an occult connection betwixt dysentery and a morbid condition of the liver. *

The doses I gave were regulated by the constitution of the patients, and the actual state of the symptoms; but one scruple night and morning was the most usual prescription, seldom less than ten grains thrice a-day. I have given a scruple night and morning so often, that I have long ceased to be at all anxious about hypercatharsis. It certainly seldom, in any case, increases the tormina and tenesmus, but generally lessens both very materially, and produces five or six large motions, voided with less straining, and less tinged with blood. I have in this way given 16, 18, or 20 scruples of calomel in the course of half as many days, before the mouth became affected. When the gums were fairly sore, with some ptyalism, the calomel was omitted, the tormina and tenesmus disappeared as a matter of course, and the bowels gradually returned to their natural state. Some tonic or stomachic was prescribed during the days of convalescence; and, generally, as soon as the mouth was well the patients were fit for duty.

Calomel was often thus given alone and uncombined; but often I thought it preferable, on account of occasional symptoms, to conjoin with it two grains of opium, or to give at noon (in the interval betwixt the doses) twelve or fifteen grains of the Pulv. ipecac. compos. This was done to lessen the irritability of the bowels, and to support the cuticular discharge. Under such management, every case recovered where no *visceral obstructions* existed,* or where the coexistent disease of the liver was not irretrievable.

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* A work has lately appeared, by Mr Johnson, surgeon, Royal Navy, wherein this connection is earnestly maintained and, I think, proved. Notwithstanding some assumed notions about the "Portal circle," rather hyperbolically extended, the work is really one of great ingenuity and utility. Perhaps its greatest fault is, the imposing air of novelty and exclusive improvement with which he promulgates his practice in dysentery,—a practice long known to his brethren in the navy who have served in tropical climates.

Opium is one of those remedies of doubtful utility in dysentery, which has been by some violently decried, and by others sparingly used, from its alleged tendency to check the natural secretions, especially that of the skin. Candour obliges me to say, that I have used it largely, and that I never noticed any of the unfavourable effects urged against it, but, on the contrary, can bear witness, with Dr John Hunter, to its beneficial power. Given after purgatives, it can never be unsafe; and if it does no more, it procures a temporary truce from the disease. How important a cessation from suffering is in every illness, but more especially in so endless and harassing a complaint as dysentery, I need not say. Prejudices, probably illusory and theoretical, ought to give way to an advantage so solid.

Almost the whole body of the profession have concurred in praising injections in this disease. I of course defer to the experience of others, while I detail my own. Having found them almost uniformly hurtful, I entirely laid them aside. The irritation produced by introducing the pipe, more than counterbalances the soothing effects of the injection. Besides the unpalateableness of this species of remedy to the good old English habits of delicacy, I have always seen that, were the enema ever so bland, or ever so small in volume, it could not be retained beyond a very few minutes, and always occasioned more straining and tenesmus in the sequel. As a commodious substitute for injections, I have directed patients to insinuate into the anus a *small* crumb or two of opium, softened betwixt their fingers for the purpose; or have caused warm fomentations to be used to the parts, and bladders of hot water to be applied to the hypogastric region. These are wont to succeed so well, that the patients speak in strong terms of the relief afforded.

The advanced guard of the army was disembarked on the 24th of December, and took up a position on the *only* road to New-

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* This is a more frequent occurrence, even in our own climate, than, I believe, is generally expected; but, of those who have lived for any length of time within the tropics, it will be found, that *four-fifths* have one viscus or other in the abdomen, more or less altered by morbid action. This opinion is deduced from a very considerable number of dissections of such subjects.

Orleans, there to await the landing of the remainder. This body was fired upon, in the night, by an armed vessel from the river (which had dropped down with the current after dark), and by the American army on their right and front. With such unequal numbers, the conflict was obstinate, but very glorious to our troops, who put the enemy to the rout, and drove them "l'epée dans les reins," a considerable distance along the road. There is little doubt, but that for the profound darkness, and the small number of our troops yet landed, the Americans, in their confused flight, would have been followed into New-Orleans, and the town thus taken by a *coup-de-main*.

Instructed by this sharp and unexpected lesson, the enemy forthwith turned his attention to strengthen his commanding position, at a *narrow* part of the road, and every hour rendered it more formidable.

Meanwhile, our whole force had landed, but could not advance till batteries had been erected to destroy the armed vessel, whose fire raked the left bank of the river, and flanked any forward movement of the troops. When this desirable object was accomplished, an attempt was made to cannonade the enemy's works, but it did not succeed.

At last the fatal morning of the 8th of January arrived. Before day-light, the whole of our army advanced in columns to storm the American lines;

> "Quis cladem illius noctis, quis funera fando
> Explicet? aut possit lachrymis æquare labores."—VIRGIL, *Æneid.*

The works were defended by a broad ditch filled with water, as also a palisade, and a wall mounted with numerous pieces of cannon. The enemy, apprised of our intended invasion, had drawn these lines quite across the only road to New-Orleans. They were absolutely inaccessible at their flanks, as their right touched the Mississippi, and their left rested on an impassable wood and morass. This was the spot which the laws of Nature, as well as the rules of art, had concurred to strengthen; this was the strait which the Americans would fain compare to the immortal pass of Thermopylæ.

The attempt to storm failed. In this instance "fortune did *not* favour the brave;" our columns were beat back at every point with a loss, I believe, of more than five hundred killed, and fully twelve hundred wounded! The Americans, probably being of opinion with the *great* Sir John Falstaff, that "the better part of valour is discretion," never once stirred from behind that "envious wall," which stood betwixt them and the eager approaches of British vengeance.* They durst not follow up their blow; all our wounded outside their works were conveyed away by their comrades; and finally, they never ventured to obstruct the re-embarkation of the troops, or to harass the rear of the retiring, but still dreaded army.

The main object of the expedition having thus failed of success, the troops were once more collected on board the fleet, and proceeded off Mobille river, to attack the town of that name. Fort Bowyer, which defends the harbour's mouth, being quickly and regularly invested, was captured on the 11th of February, but the ulterior operations were suspended by the arrival from England of the news of the peace of Ghent. The troops were disembarked on a sandy uninhabited spot, called *Dauphin* island, there to await the ratification of the treaty, and the arrival of such supplies of provisions as would enable them to prosecute the voyage homeward.

It is worthy of remark, that, notwithstanding the almost unexampled fatigues and privations of all sorts to which the army and navy had been exposed while before New-Orleans, sickness of any kind, up to the 8th of January, had made comparatively little progress amongst them. The bowel-complaints, though numerous, were for the most part easily removed; and no other disease of any consequence prevailed. It is a remarkable fact, in the medical history of fleets and armies, that, during the fatigues and sufferings of a hot campaign, or the active progress of warlike operations, the men are very little subject to illness of any sort; as if the elation of hope, and the other great passions with which they are agitated, had the virtue to steel the constitution against the most powerful causes of disease. This circumstance, no less curious than true, proudly proves the ætherial origin of our nature, and goes far to assert the omnipotence of mind over matter. No sooner, however, does a great failure, and the dejection it draws after it,—a cessation of operations, and a return to the "vita mollis," allow the spirit of enterprise to flag, than the previous fatigues and exposures being to tell upon the constitution by their usual results,—*disease.* Like a machine wound up beyond its pitch,—the excitement of accumulated motives once withdrawn,—the human frame rapidly runs down, and yields with a facility almost as unexpected as its former resistance. Hence, after a campaign, diseases of all sorts are prone to a type of debility and aggravation, and the proportion of deaths is unusually numerous.

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* "*Invide*, dicebant, *paries*, quid *fortibus* obstas?
Quantum erat, ut sineres nos *toto corpore* jungi!!"—OVID. *Metam.*

This sentiment burst indignantly and unanimously from our troops.

In order to estimate how far the Americans deserved credit for coming to close quarters, I may mention that more than *three-fourths* of the British wounded came under my eyes, and *not a single bayonet or sabre wound was found amongst them.* Many of them were slight from buck-shot. "There are certain objects that are best kept at a distance." This rule in perspective the Americans seem to have made their particular study.

Accordingly, in the instance before us, the pressure of ill success began to be severely felt after the failure of the 8th, and the consequent reimbarkation of the army. By this time unremitted fatigues, poor living, and that at short allowance, with the total want of fresh beef and succulent vegetables, not only altered for the worse the character of the bowel-complaints, and produced a fatal relapse in some recently cured, but also introduced scurvy, with its multifarious train of perplexing symptoms. Exposure to marsh miasmata, also, produced many cases of intermittent fever. By this time, too, the weather was getting warmer (the thermometer generally ranging from 60° to 70°), accompanied with more sudden vicissitudes, and a greater proportion of rain.

Dysentery now put on that exasperated form in which it has so often scourged our camps and fleets; and never shall I forget the terrible force of this invisible enemy. In all cases it was a very baffling untractable disease, but in those who had previously served long in warm climates, and whose livers were thereby affected, it was almost uniformly mortal. When the disease attacked such persons, it was a subject of melancholy but curious speculation to witness the headlong course of the disease, and how unavailing any species of treatment invariably proved. It knew neither pause nor hindrance, but, like the fabled vulture of *Prometheus*, pursued its cruel task from day to day. Dissection always brought to light extensive visceral obstructions, particularly chronic inflammation, or abscess of the liver, with or without enlargement.

Nothing but experience can convey adequate ideas of the ungovernable nature of this disease, or of the insidious masked approaches of its attack. Days of an indisposition, apparently trivial, sometimes occurred ere the peculiar symptoms of dysentery shewed themselves; at other times, pyrexia, high or slight, * and occasionally pain in the right side, obtuse or acute, followed by frequent copious dark green stools (like *boiled spinage chopt)*, slightly tinged with blood, were the form of the disease.

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* I may observe, that I never had the slightest reason to believe the disease itself, or its attendant pyrexia, to be at all contagious. I may also remark *here*, though I anticipate the course of the narrative, that in April and May, when the weather became hot, the character of the prevailing dysentery was rather

Griping was little complained of. There was merely a sense of weight in the hypogastric region, and a copious *flux* of green or dark-coloured sordes, voided without straining. The tongue was covered with a yellow fur, which, in the advanced stage of the disease, became thick, dark, and immoveable, as a slab of black marble. The pulse was sharp, but weak; frequent retching and hiccup attended; and a sensation, as if all the drink swallowed, hot or cold, ran speedily through the intestines. Oftener the complaint would make its attack with the common introductory symptoms, and no pain in the right hypochondrium was felt throughout the disease, either on inspiration, or strong pressure beneath the ribs. Under whatever garb of disguise it made its appearance, disease of the liver (as I have before stated), and consequently a vitiated state of its secretions, were undoubtedly the primary cause of the mischief. Dissection of the fatal cases shewed structural derangement, and generally suppuration of that viscus. I have often found two separate abscesses in the central part of its large lobe, containing in some instances a pint of pus, similar in colour and consistence to what is usually found in psoas abscesses.

On the villous coats of the colon and rectum, there were numerous excoriated points, with small superficial ulcers here and there, like the sequelæ of erythematous inflammation; but there were no morbid alterations sufficient to account for death; no ravages of gangrene, &c. like those related by Sir John Pringle and others, in their accounts of this malady.

In short, to give a condensed view of the whole matter, the phenomena of the cases that recovered, as well as the morbid appearances of those that died, impressed upon my mind a conviction, that the diseased condition of the liver was the soil from which dysentery drew its malignant growth, strength, and nurture. This was the "fons et origo mali;" by it the dysentery was excited, and only by *its* removal could it be removed. This double detriment—this *Janus-like* aspect of the disease, I rather think, is new to many of the profession, but I trust it will soon be widely known and acknowledged. I hope the time is not far distant, when, instead of viewing dysentery as an idiopathic disease, and tracing its seat to the colon and rectum, medical men

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exasperated by it; unlike the dysentery of cold climates, which is generally rendered milder, if not extinguished, by atmospheric heat.

will regard it merely as secondary to, and symptomatic of hepatic affection, and will seek its cause in a morbid condition of that important gland.* Whatever may be the *mode* of connection between hepatitis and dysentery, I have no doubt that, at least in tropical climates, they are connected like cause and effect. I am *unwilling* to offer any hypothesis on this subject, purely because I am *unable*; this I confess, for I shall never chime in with that tone of affected contempt for all theories, in which presumptuous dulness so often shelters its imbecility. Those who indulge this disgusting oft-repeated cant, ("crambe bis millies cocta,") ought to be reminded, that not merely in medicine, but in all other sciences, few brilliant discoveries have been made, except by those acute and industrious men that were shapening and toiling at some untractable theory. However much all their diligence might fall short of the results they themselves fondly expected, still so much digging and delving often turned up very valuable ore, and always left the soil in a fitter state for the future labourers in the great field of improvement.

To return to the subject under consideration, I can readily conceive, that, from disease of any gland, the fluid it secretes may acquire acrimonious properties, sufficient to injure the fabric of the passages through which it is destined to pass. We generally observe in dyspeptic complaints, or after a period of constipation, when the bile, from *remora* in the bowels, becomes morbid in quantity or quality, either that a spontaneous diarrhœa comes on, or, after a brisk cathartic has been exhibited, that the dislodged bile excites a sensation in the rectum, as if *boiling lead* were voided. When the state of the liver is still more morbid, may not the bile acquire the property of exciting *flux*, and of excoriating and ulcerating the villous coat of the colon and rectum?

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* It seems to be one of the errors of modern medicine, to overlook in practice the liver and spleen, merely because the necessity of their functions is not so obvious and immediate as that of some other organs. That a gland so large and of such unexampled vascular structure as the liver, should have much occult influence in all diseases, might, from the mere reason of the thing, be supposed. Its secretions influence the state of the stomach, and are influenced in their turn by the passions of the mind; and many facts would lead us to believe that there is a hitherto undescribed sympathy betwixt *this* viscus and the *brain*. I am informed, from a gentleman who has practised long in India, that patients have been suddenly seized with amentia, rigors, delirium, and syncope, speedily followed by death, and that, on dissection, abscess of the liver was the only perceptible cause of such symptoms.

The depressing passions I have seen to have a striking effect on the biliary secretion, and even to induce cholera; whereas anger, like intoxication, when habitually indulged, gives rise to chronic enlargement and obstruction of the liver. In short, the functions and sympathies of this gland, which were deservedly of so high account with the ancients, seem to be insufficiently studied by modern physicians.

Horace, in the following lines, instead of a popular or poetical tenet, has probably expressed a curious and unexpected pathological fact.

"—————— Vae meum
Fervens *difficili bile tumet jecur*
Tunc nec *mens* mihi, nec *color*
Certâ sede manet."——HORAT. *Carm. Od.*

These speculations I present with the greatest diffidence; and certainly do not wish to amalgamate them with the *facts* above recorded, which I pledge myself to have observed diligently, and reported faithfully. The latter are Nature's work, and, *as such*, will be confirmed by future experience: the former are matter of conjecture and personal opinion, which may stand or fall at the reader's pleasure; for, as Cicero well observes, "Opinionum commenta delet dies, naturæ judicia confirmat."

Whether, therefore, the ratio symptomatum just given approach to nature's actual steps, I know not; but it is certain, that the practice which most readily removes the disease seems to countenance the above mode of reasoning. The *mercurial method* I have pushed to a great extent, and its results have been such as to give it a very decided preference, in my estimation. Calomel, that great specific in obstructions of the liver, given in large doses (generally one scruple twice a-day), combined with opium, to cause it to be retained in the system, corrects the condition of the liver, prompts healthy secretion, and resolves pyrexia; as soon as ptyalism takes place, the dysenteric symptoms disappear, and the appetite gradually returns. Upon the whole, my own experience, as well as that of some others that served in this fleet and army, warrants a far more certain expectation from this mode of treatment than from the alternation of purgatives with astringents, or any other heretofore in use.*

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* I shall here mention a fact which may be regarded as the *experimentum crucis*, decisive of the rival merits of the two methods of treatment. The ship in which I am employed remained in the Gulf of Mexico after all the rest of our force had retired. From the large expenditure of calomel, I at last had none left, and there was not a grain to be procured. At this time I had several cases of dysentery, which, from necessity, I was obliged to treat, for several days, on the *old* plan, by neutral salts, or oleum ricini, alternated with anodyne sudorifics, mistur. cretac. rhubarb, diluents, &c. &c. One case was, indeed, of so bad a type, that I had made up my mind for its ending fatally. Luckily, however, our arrival at the Havannah enabled me to procure a supply of good calomel; and I immediately commenced with ten-grain doses thrice a-day.

Though mercury had, in this manner, such commanding influence over the disease, still experience here was not always uniform, for there were several vexatious instances where it failed. I do not speak of the fatal cases (for in them neither laxatives, astringents, fomentations, blisters, opiates, mercurial frictions on the abdomen, nor calomel pushed to salivation, ever were able to keep off the unhappy event), but expressly of those few instances where the patients, after being apparently cured, relapsed without any evident cause (I may observe, by the way, that relapses are more frequent, and more generally fatal, in this disease than in any other), or where ptyalism mitigated the symptoms somewhat, perhaps even suspended the disease entirely, until the mouth was well, and then it returned with much of its pristine violence. The disease thus ran into the chronic form, and harassed the patient for weeks, or even months, with the various symptoms arising from a weak irritable condition of the primæ viæ, irregular hepatic secretion, and imperfect formation of the chyme. The chief of these symptoms were, vomiting after meals, night-sweats, febricula, watching, pains in the lower belly, occasional tenesmus, frequent costiveness, followed by spontaneous diarrhœa and discharges of blood, attended with frequent prolapsus ani and difficult micturition.

In conducting the cure, very delicate management was requisite; in fact the disease required rather to be led than driven. A regulated diet, and the use of flannel next the skin, were of the highest consequence. At the same time, the patient was put under a gentle and gradual course of calomel, taking two or three grains morning and evening, and rubbing in a portion of mercurial ointment on the belly and right side. Laxatives and astringents were employed occasionally, but, above all, the greatest use was made of opium, both internally and local-

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Next morning the patient was better; had passed a more tolerable night; had less tormina and tenesmus, and a cleaner tongue. I increased the dose to one scruple night and morning, and thenceforth his improvement was perceptible from day to day. The pyrexia soon abated, and, in ten days, his dejections, from being green and fetid, had recovered the natural yellow colour, or nearly so. No complaint remained but a sore mouth. The patient is now living, and likely to live, a witness to the superior efficacy of this mode of treatment. The above is merely one of many instances where I have seen calomel work rapidly, and like a *charm*.

As a proof with how little apprehension calomel may be given to persons of all ages, I may state, that, to a boy of 14, *one hundred and fifty-two* grains were given, during the acute stage of a most dangerous attack of dysentery, before his mouth became fairly sore!! He fully recovered.

ly, *per anum*, and it really effected most conspicuous benefit. Sulphate of zinc I now and then tried, but from the nausea which it excited, even in three-grain pills, morning and evening, and from its apparent inefficacy in the disease, I should scarcely, in future, be tempted to give it farther trials. The tonic power of Peruvian bark was very useful, both as an astringent to the bowels and as a restorative to the whole system. When the mouth was recovered from the first gentle mercurial course, if the complaint had not yielded, I did not hesitate to use calomel again in the same gradual manner, till the gums were slightly affected, and then gave tonics as before. This assiduous perseverance, and the patient attention which it implied, I am happy to say, were well rewarded. Many patients were thus recovered from a state, not hopeless indeed, but very precarious, and were re-established in firm health.

I have been thus minute on the subject of dysentery, seeing it was the principal disease by which we suffered. The practice above detailed was not merely my own, but was pursued, though perhaps with minute variations, by most of the medical officers of my acquaintance on this expedition.

I have before mentioned, that, besides dysentery, many cases of intermittent fever and scurvy occurred; in truth, the latter diathesis was often very conspicuous in the patients affected with dysentery. Of the intermittents I need not speak, as nothing remarkable took place in their symptoms, and they were all easily cured by the usual means. Of scurvy, however, from the great number of the cases, and the fatality of some of them, it is necessary that I should give some account. Besides the customary symptoms of livid blotches, bleeding gums, and a slow healing of the small cuts or scratches accidentally inflicted, phlegmonic inflammation and suppuration sometimes occurred spontaneously on the leg, followed, when the abscess burst or was opened, by sphacelation of the cellular substance. Often, too, trivial sores would change in a night, and take on ulcerative action, with extensive sloughing of the integuments and muscles, and a most profuse ill-conditioned discharge. When the mere loss of parts was so considerable as to render it impossible to save the limb, and the resource of amputation was called for, the case did not often end well; for the stump, after doing apparently well, degenerated without any evident cause, and was seized with sloughing, a black thin fetid discharge, and a general melting away of the muscles, until they were insufficient to cover the bone. Hectic fever and exhaustion gave the patient his last release.

In this formidable complaint, which may be denominated "sloughing scorbutic ulcer," many remedies were employed, both internally and externally. The internal ones were lime-juice, bark-mixture, and mineral acid; but it would appear that the former, though adequate to correct a mere proclivity to scurvy, has little or no power in these more advanced and serious states of the disease. In fact, it was not to be so corrected; it was not merely vegetable acid, but esculent vegetables, fruits, refreshments, and repose, that were necessary. It was purely from the want of these that the people had suffered, for neither crowding, impure air, nor filth, had any existence in situations where this form of scurvy often appeared.

Equal parts of basilicon and oil of turpentine (melted and applied warm to the ulcer), mixtures of lime-juice, or rum and water, charcoal cataplasms, common poultices, bark decoctions, or bark in powder, were employed as outward applications to a sore; but though they kept it cleaner, they were often of no avail to arrest the sloughing process. A solution of *two drachms* of *alum*, in about a *quart* of water, was, upon the whole, an admirable local remedy, and seemed to possess wonderful powers in stopping the ravages of sphacelus, and giving a healing tendency to spreading ulcers. For the knowledge of this application, which is not more simple than efficacious, I am indebted to the liberality of Mr Boyd, surgeon of the Gorgon Hospital-ship, a gentleman of uncommon ability and experience in every department of the profession. *

The detail of this season of peril and pressure closes here. It commenced about the middle of January, and its painful duration was upwards of two months. During the last week of March and first week of April, the main part of the expedition finally left those shores; therefore the observations I am about to make on fever, apply less to the armament in general, than to the force (chiefly naval) that was obliged to remain in the gulf of Mexico for several weeks after the rest had proceeded home.

The frosts and cold rains which had lately prevailed on this coast were now at an end, and the weather rapidly mounted to the average standard of the torrid zone. During April and May, the thermometer was never below 80°, and often indeed rose much higher. This greatly augmented temperature soon began to tell on the people, and gave rise to many cases of cholera and of ardent fever,—the latter entirely confined to those who had previously been serving on shore, or exposed much to the sun and night-dews while pulling in boats on the coast, or in the river of Apalachicola. Of the former disease, not one instance, so far as I know, proved fatal. Large doses of calomel, with opium, and plenty of mild diluents, constituted the whole of the treatment. In ardent fever, however, the success, though great, was by no means so uniform. I here propose to throw together a few general remarks on this much agitated disease; to treat of it circumstantially, even were the limits of this communication to admit such detail, would, after the excellent works lately published on the subject by Dr Bancroft and others, be entirely a piece of supererogatory labour.

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* I trust Mr B. will excuse this unauthorized citation of his name and authority.

In the gulf of Mexico, the features of this fever were precisely such as I have been accustomed to see in the *kausus*, * or yellow-fever, so well known in other parts of this great western Archipelago. It had the same præmonitory and leading symptoms, the same proneness to excessive arterial action, irregular local determinations, and topical congestions of blood, with the same rapid and decided tendency to death. It was indeed a most formidable disease, and verified all that has been written about its danger. In the milder cases, one in five or six is about the proportion of deaths, but, in the highest grades, if one-half survive it may be considered success!

Modern medicine has nothing of which it can boast, with greater justice, than the improvement of late years introduced into the treatment of this disease; an improvement which has apparently given more enlarged views of febrile diseases in general, and communicated an analogical impulse of boldness to the treatment even of European fevers, which it never had before. The contrast *abroad* betwixt the present and the "olden time," is sufficiently striking. The imaginations of professional men in tropical climates, were formerly held in subjection by that bugbear debility, and its train of needless terrors. Systems of nosology had been pleased to style the disease in question Typhus icterodes; consequently active depletion was carefully shunned. The practitioner stood comparatively an idle looker-on during the early stage, prattling about the vis medicatrix naturæ, and fidgeting with his calomel and his James's powder. The disease of course *took its hue* from the species of treatment employed at first. The neglect of evacuations allowed the excitement to riot and revel unchecked; *hence* came petechiæ, vibices, hæmorrhages, and the rest of the direful consequences of overaction; *then*, indeed, the disease was pronounced *malignant*, *pestilential*, and highly *putrescent*, and the golden opportunity arrived for throwing in (as the phrase is) his bark, wine, and opium, against that debility about which, at a wrong time, he was over-solicitous.

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* Why is this word usually spelt with an initial C, since we all know it is derived from the aorist of the verb *καίω, καύσω, κέκαυκα,* uro?

That cabalistical word *typhus*, I verily believe, has slain its thousands and its tens of thousands. The effect of a mere word is often prodigious; for, as the famous Mirabeau once said in the French National Assembly, "words are things." Terms signify ideas,—these constitute opinions,—and opinions lead to acts. Every body is now convinced how improperly the term Typhus is affixed to the endemic fever of the West Indies; that it is applied with more propriety to the majority of fevers in *our own* country, is to me by no means clear. While I acknowledge that, in the *made-up* constitutions of artificial life,—amidst the squalid dregs of the population of a crowded and high-viced metropolis,—some cases of fever occur where the brain labours merely through sympathy with the stomach and biliary organs, and where the lancet, for several reasons, is unnecessary, or inadmissible,—still in by far the greater part, I suspect the reaction is sufficiently violent, and the determination to the contents of the head and belly sufficiently marked, to require, and to be greatly benefited by, blood-letting, either general, or topical, or both. The fever, however, is apt to be hastily pronounced typhus, and this sentence once passed upon it, typhus it must be; consequently, from day to day, the *name* of a disease is prescribed for with due solemnity and skill. To be sure, the morbid actions are fortunately seldom so concentrated as to resist the subordinate evacuations of purging and blistering; and so the patient frequently recovers in the end, after a protracted illness, which he, "good easy man," thinks has been quite unavoidable; charitably supposing "all's well that ends well." Even if we keep out of view the high moral responsibility for risks run, and sufferings protracted, which this inert treatment implies,—even if we speak of it with mildness,—we cannot, in conscience, bestow on it any other than the negative commendation, that by its effects neither the patient loses his life nor the practitioner his reputation!

The same erroneous nomenclature which gave to ardent fever a typhoid character, in all likelihood originally produced the notion of its being contagious, a notion which has since been attempted to be maintained by a combination of learning and sedulous talent, that, by plausible reasonings and expertly laying hold of popular opinion, has sometimes had power to "make the worse appear the better reason." But the affinity which such nosological arrangements suppose, does not hold. Besides the known fact that febrile contagion will not exist in warm climates, but is more readily extinguished by atmospheric heat than by any other cause, there is such a difference in the first symptoms, progress, and duration, of ardent fever from those of typhus, that all who are guided by practical views, and are not misled by too eager a spirit of generalizing, have pronounced it a totally different disease, in fact a disease of inflammation. Such a radical difference of character argues a corresponding difference of causation. The origin of this fever has, therefore, been attributed to causes of a local or domestic nature, because the disease itself is found to be strictly local. It only prevails in countries within the tropics, and in them only at those seasons when the thermometer ranges from 80° to 94° in the shade. It is therefore justly believed to be owing to the diffusion in the atmosphere of those poisonous exhalations, which are elicited by the powerful rays of a vertical sun from marshes, from putrefying vegetable matter, or from the soil itself of tropical countries. Miasmal poison is one of the most widely diffused causes of disease throughout the whole province of nature; and if northern climates know less of its pernicious effects, they owe this happy exemption solely to the inferior power of the sun's heat in collecting those noxious vapours.

Although the disease I speak of may be said to have its seat and throne within the tropics, yet in every country where the height of the thermometer is at certain seasons from 80° to 90°, fever, instead of the low type observed in high northern latitudes, assumes, in almost every instance, a decided inflammatory character. In short, amongst the febrile diseases of southern climates, there is a uniformity of character, which, in spite of hypothetical classification, powerfully argues a community of origin and of cause. For proof of these facts, I may refer to the valuable practical works of Dr Irvine on the diseases of Sicily, and Dr Burnett on the fever of the Mediterranean; as also to a judicious paper by Mr Boyle, published in the 6th volume of the Edinburgh Medical and Surgical Journal; and to the various reports of the American physicians.

Thus New-Orleans, though without the tropics, is almost every summer visited by a *four* or *five-day* fever, which has all the essential characteristics of the genuine *kausus*, and is in fact known popularly there by the name of yellow-fever. This heavy infliction is entirely owing to its climate and locality, (which I have already taken pains to describe),—to that profusion of marshes with which it is surrounded. In this respect, however, it is not singular; many spots in the *interior* of America experience, during summer, the visitation of yellow-fever, where, from remote situation, and accidental non-intercourse, imported contagion is absolutely impossible. This is a staggering fact for those "demigods of fame," the abettors of contagion; but as New-Orleans is a place of extensive trade, and has frequent communication with many islands in the West Indies (whence contagion *might* be imported), their spirits will, perhaps, revive at the sight of this "trou de rat," by which they have a chance of escaping from the difficulties and contradictions of their system. They may forthwith unlock their box of *debateables*, and expose to the public anew their battered generalities, thread-bare assertions, and damaged bundles of remarks. I shall here, however, state one conspicuous fact, which will go far to forestall the endless fertility of their explanations.[*] Towards the end of March (1815), a fever of great rapidity appeared in New-Orleans, which carried off many strangers, and some of the inhabitants. Let us here particularly attend to dates. The river Mississippi, during the whole American war, had been blockaded, and indeed latterly with such rigour, during the time our expedition was on the coast, that no vessel of any description had passed up to the city for months. The interdict was not taken off till the 21st of March, when the ratification, at Washington, of the treaty of peace, was officially announced to the admiral commanding the fleet in the gulf of Mexico. It was some time afterwards before any vessel entered the channel of the Mississippi. The fever had certainly existed several weeks in New-Orleans before any strange ship arrived abreast of the town. Besides, every summer of the war, the city had suffered more or less from yellow-fever, though all intercourse with the West Indies had been suspended. Can any facts be found more unequivocal, to prove that this fever is always strictly indigenous to the district where it prevails?

While at Pensacola, in May last, the recent endemic of New-Orleans was described to me by a gentleman that had just quitted the city. He said, the disease first attacked with headach and sore throat, succeeded by violent fever, and proved fatal in three, four, or five days. The symptoms of cynanche I could well account for: The temperature was subject to sudden and considerable variations; it was not steadily above 80° in the day, and the nights were often cold. No wonder, then, that local inflammation of the tonsils often accompanied this fever. My informant farther stated, that its appearing at least two months earlier than the usual epidemic, led the alarmed multitude to consider it a *nova pestis*, different from the ordinary summer visitant, more especially as, in the latter, sore throat was a symptom never found. But there are facts which explain its premature appearance very satisfactorily. In the winter the marshes had been first frozen, and afterwards overflowed by rains; the city, in a great degree, had suffered the privations of a siege, and there was an unusual influx of strangers. The previous weather having been so uncommonly severe, and the pores of the earth locked up, was it not to be expected, after such a state of things, that the sudden increase of temperature would disengage the long-pent seeds of disease, and would draw forth from the saturated earth a cloud of poisonous exhalations by day, to be condensed and fall upon the city during the chill of the succeeding night?

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[*] Few medical subjects have excited more acrimonious controversy, than the one here alluded to. The contagionists, sensible that the "*onus probandi*" lies with them, seem to wince and stagger under the burden with unequivocal signs of fretfulness and debility. If they can't keep their temper, let them, at least, keep silence! Since, they say, they have got truth and reason, and all the rest of the *good things* on their side, let them rest satisfied with their good fortune, and, like the sagacious Dogberry, "Give God thanks, and make no boast of it."

This is merely another added to the many facts already recorded (to which I have neither occasion nor room to refer), that appear to set the question of contagion at rest for ever. On this subject, removed as it is from the cognizance of our external senses, direct proof cannot well be had; but, of there being no such thing as contagion, I myself have had abundance of negative evidence. At the period I speak of, as well as during the time that the ship to which I belong was on the Jamaica station, when men laboured under endemic fever, there was the most unreserved intercourse betwixt them and their immediate companions in the ship, who frequently visited them. The attendants of the sick-birth also were in the constant habit of lifting the patients out of bed, placing them in the cold-bath, changing their linen, and administering to all their personal wants. In such offices, it is evident that these men must be exposed to contagion in all manner of ways, if it exist. Yet it so happened, that, in the very considerable number of instances of fever, even its worst grades, not a single individual of those that had hourly intercourse with the patients was ever seized with the disease. If even it had been otherwise, I am far from being disposed to grant that contagion was thereby proved (for, where *all* are equally exposed to the peculiar causes, seizures must often be indiscriminate); yet, since it so happened that the most frequent commerce with the sick never produced the same disease, that fact, however accidental, must go far to confirm the belief of its being non-contagious. I firmly believe that (except now and then a sporadic case, induced by intemperance, or exposure to the sun, or night dews, acting on an accumulated fund of predisposition), in every instance miasmata are necessary to the existence of this fever. As its cause is local, so itself must needs be.

Thus much for the disputed doctrine of contagion.

The endemic fever of the West Indies is justly classed in the order of intermittents, which are universally believed to be of local origin and non-infectious; if, in the former, the intervals betwixt each paroxysm are shorter (and they are frequently so short and indistinct as to be not observable at all), it is owing to the superior virulence which the noxious miasmal exhalations acquire from the action of excessive solar heat.* In the higher grades of yellow-fever, remissions cannot be perceived, at least I never could notice them; in its less violent forms, such remissions are, generally speaking, perceptible enough.

I have never been able to see the propriety of the distinction which authors have drawn betwixt the different gradations of West India fever. Of this, as of all other diseases, every case is not alike severe; yet the most violent cases they are pleased to denominate *yellow-fever*, while those of a milder form are called by the name of Bilious Remittent. This appears to me a distinction without a generic difference,

> "Facies non omnibus una,
> Nec diversa tamen, qualis decet esse sororum,"—

for these two forms have certainly the same inflammatory character,—the same morbid actions,—the same tendency to local congestions of blood, and are merely varieties of the same disease,—produced by the same diffusible poison,—obeying the same laws,—only modified by accidental circumstances of predisposition in the habit of the patient, or the strength of the dose of miasmal gas. It would introduce endless confusion into our nosological systems, were the ever-varying gradations of severity in any given disease assumed as a sufficient ground for referring it to a new cause or a new class.

Of the treatment I come now to speak. Regarding this disease to be, to all *practical* intents and purposes, inflammatory, and the affection of the head to be primary and essential, which is evinced by headach, intolerantia lucis, and red eyes, occurring as the earliest symptoms (for the eye is here an index of the state of the brain, in the same manner as the tongue is of the state of the stomach), I have never hesitated to push evacuations to the utmost. Bleeding from the arm or frontal branch of the temporal artery was always my first step; and large and repeated bleeding during the early stage (the earlier the better) I consider the great palladium of the patient's safety. One cannot tell how many ounces ought to be taken; we ought to bleed to syncope, to break the morbid association of the symptoms, and induce a speedy remission; for I am convinced, that it is less by its unloading the vessels, than by the *shock* (I cannot express it in philosophical language) which it gives to the whole system, nervous as well as vascular, that blood-letting affords the magical relief I have so often witnessed. It is also by the inexplicable changes implied in the word *shock*, that cold affusion operates advantageously; for, in tropical climates, where the temperature of *sea-water* is generally from 80° to 82°, its refrigerating power must be much abated.

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* The thermometer, placed in the sun in the West Indies about noon, generally stands about 127°. Few can imagine, unless they have felt it personally, how overpowering such direct and continued heat is. No wonder it produces violent effects on the inflammatory unassimilated diatheses of northern strangers.

The state of the pulse is less to be regarded than the urgency of the other symptoms; even when the former is thready or undulating, the latter often imperiously demand renewed depletion; and their demand must be complied with at all hazards. In a disease like this, where the danger is frequently imminent in twelve or twenty-four hours, it is amazing how much its apparent character may be altered by active depletion. From a fever of the highest grade, management will change its complexion to one of the second or third order. To secure every chance of such success, no attention must be spared; the patient ought to be seen every two hours; and, whenever the febrile symptoms get up anew, new exertions must forthwith be made to subdue them.

It is a Herculean disease, and, without that almost omnipotent remedy, the lancet, we might be said to encounter it unarmed; for all other means are but of secondary force. It requires all the vigour and activity imaginable, else it will gain ground on us with rapid strides. A practitioner who will not bleed largely in the onset, will soon feel himself in the melancholy predicament of the celebrated *Julian the Apostate*,* who was hurried into battle with an active and unrelenting enemy before he had buckled on his armour, or prepared himself for his defence. Like Julian, he will feel his vantageless condition when it is too late, and will pay dearly (if he has sensibility), or at least his patient will pay dearly, the forfeit of such neglect; for be it remembered, that, in medicine no less than in politics, "Quicquid delirant reges, plectuntur achivi."

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* For the death of Julian, and the manner of it, see the elegant narrative of *Ammianus Marcellinus* (Hist. Lib. xxx.), as also Mr Gibbon's interesting account.

In this disease, therefore, it is indispensable to bleed again and again:—It is the main stay,—the sheet-anchor of hope. Without it, many, very many must infallibly be lost;—would that I could say that by it *all* are saved! But when it is recollected how often inflammation, even of parts not vital, foils all our exertions at resolution, it cannot be wondered at, if blood-letting is often incompetent to remove inflammation of the brain or abdominal viscera, organs endowed with high sensibility, extensive sympathy, and functions whose right performance is essential to life.

I cannot undertake to go minutely into all the happy results* of this decisive practice; in fact, it is the less necessary for me to do so, as it obtains so generally amongst surgeons employed in the service of their country in tropical climates, and has become such a favourite method, that, instead of an unguarded hortatory tone, it would perhaps be well to put in a *caveat* against the abuse of this most potent remedy. Of such abuse, I cannot say I have seen any example; but some friends, on whose judgment I place great reliance, have informed me that they have occasionally witnessed detraction of blood pushed to an unseasonable and improper length. This I can well believe, having felt by experience, that the great difficulty in treating this fever is to say *when* active evacuations ought to be laid aside. The exact decision of this point requires considerable seat, and a previous acquaintance with successive phenomena of the disease.

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* It is remarked that patients who have been ill of fever are apt afterwards to die of dysentery or chronic complaints. Though thirty-seven of the crew of the frigate to which I belong laboured under ardent fever on the Jamaica station, and though the ship afterwards suffered a good deal from dysentery in the gulf of Mexico, none of the thirty survivors died of that or any other subsequent disease. It is therefore another praise of the depletory practice, that it leaves no visceral obstructions to be a source of after danger.

I shall here mention a farther indirect advantage arising from this method. In the early stage of ardent fever there is often a torpor of the bowels, which renders them insensible to the stimulus of purgatives. When bleeding is practised, either while the blood flows, or immediately after recovering from syncope, the cathartic previously given produces urgent calls to the seat and full purging. Venæsection certainly renders the body more susceptible of the action of blisters also.

Purging, free purging, I have not hitherto mentioned, its necessity being so much a matter of course. A stimulus ought to be kept up constantly on the bowels, if with no other view, than to relieve the head. Blisters and the cold affusion I have found to be valuable auxiliary remedies:—I call the latter by the subordinate epithet of *auxiliary*, for to attempt (as some have fondly hoped) to extinguish this most violent fever by *it*, is like attempting to extinguish the crater of mount Ætna by water! It, however, reduces heat and invites sleep, and (what is of very great consequence) by its bracing power on the skin, it gives tone to the stomach, lessening nausea, and checking vomiting, a thing so much to be dreaded in every stage of this disease. With the latter view, also, I have found saline effervescing draughts, and small oft-repeated doses of calomel, highly useful.

These remedies are mentioned in succession according to their relative efficiency, but, in actual practice, their application must be contemporaneous. Bleeding, purging, cold lotions to the head, shaving the scalp, and general refrigeration by the cold bath, must be drawn up together in array against the disease, and must make a combined attack. A first or even a second disappointment must not rob us of our perseverance. Courage and constancy will in the end often succeed against great seeming odds. In short, the violent excitement must be got under by all means, ordinary and extraordinary.

I have never either tried or trusted to calomel as a *sialagogue* in this disease. The blind confidence in its supposed specific power has, I believe, nearly faded away before the better lights and the more speedy results which the depletory practice has afforded.[*] In ardent fever, where there is a morbid activity of the arterial, with a proportional inactivity (almost amounting to torpor) of the venous and absorbent systems, it is a matter of extreme uncertainty, whether mercurials can find their way into the system, until the paroxysm of fever is dissolved. Its action, even were it absorbed, would be rather hurtful, as favouring that depravation of the solids and solution of the fluids, which, with the effect, putrescency, are so much to be feared in the latter end of continued fevers. Upon the whole, longer time and trials have only given additional strength to the opinion which Dr Saunders pronounced on the inutility of mercury in the endemial fevers of tropical countries.

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[*] An attempt has lately been made to *clap up a match* betwixt the depletory and mercurial methods, and to call in the aid of both in the same case. The most respectable, if not the original proposer of this incongruous union, is Mr Johnson, in his valuable work before referred to (see note, p. 136.) What table of affinities suggested this coalition, it would be vain to conjecture.

However ingeniously devised this combined system may be, it will never stand. Like the famous image in the vision of the prophet Daniel, it is formed of repulsive materials: the *iron* and *clay* will not coalesce—cannot amalgamate,—but the baser matter will crumble to dust, leaving the other part to the enjoyment of proud perpetuity. The separation doubtless will be spontaneous, and the sooner it takes place the better.

In the cases that came under my care, I have been in the habit of giving three or four grains of calomel after the primary stage of fever, every three or four hours, with the view of deriving from the head and viscera, by keeping up a constant action on the intestinal canal, as also to carry off sordes, and to prevent vomiting. I preferred calomel, because, from the precarious state of the stomach, more bulky or more nauseous cathartics could not, in all likelihood, be retained. When low delirium, coma, torpor, or the like, occur, it may be desirable, as a last resource, to place the system under the influence of mercury; but, even under these circumstances (though the mouth was fairly affected), I have never been so fortunate as to see it of any avail in saving life.

Much has been said about the prophylactic virtue of this mineral in warding off the attack of fever. No one will deny that a mercurial course, by lowering the tone of the constitution, lessens the liability to this as well as all other inflammatory diseases; but some cases in point have fallen under my care, where men have been suddenly attacked with severe symptoms of the endemic, whose systems, for a week before, had been saturated with mercury on account of a venereal complaint. I therefore suspect that the influence of this metal, as a preventive of tropical fever, is like that of the eruption of prickly heat (Lichen tropicus) on the skin, founded in error: the latter, I know from repeated experience, has no other basis than hasty popular opinion.

It would be easy to extend these remarks on fever to a greater length; but I have endeavoured to confine myself to leading points, and to those opinions of late authors which seemed to admit farther elucidation. I am not altogether without hopes, that, notwithstanding the low standard of merit in which this communication must rank itself, perhaps I have furnished here and there a *raw material*, which may be *worked up* into something of utility; or a hint which, even without any such expectation on *my* part, may be converted by others to the improvement of our profession, for which, in my humble sphere, I trust I am not without zeal and devotedness. At all events, a delineation of disease on a great scale, and a detail of practical facts, can never be wholly useless; and I can only say, that I have described such facts and occurrences accurately, as far as my means of information reached.

[*] Though the length of this narrative has already far exceeded my expectation, I cannot, in closing the history of *this* unfortunate expedition, refuse myself the pleasure and the pride of applauding the manly conduct of our unrivalled country throughout all the checquered events of war. Her sobriety is not to be staggered by hundreds of victories, and her elastic spirit rises under a failure with unabated magnanimity. In battle, and council, amidst the deep agitation of general danger, and in the appaling spectacle of kingdoms falling or fallen, Britain has invariably comported herself with a wisdom, self-confidence, and greatness of heart, truly characteristical of a great and intelligent people. We have fought and we have bled, sustaining, amidst sacrifices, very painful to be sure, but honourable, a paroxysm of glory, and an agony of fame. From the Ganges to the Mississippi,—from the regal Pyramids of Egypt, to the limits of the Hyperborean wilderness,—from the solitary straits of Magellan to the perpetual snows of Labrador,—every "kindred and tongue and nation" have learnt to appreciate our power, sublime in victory, and venerable even in defeat. It is impossible to foresee the revolutions, in future centuries, which chance or destiny may cause; but we may venture to believe that the achievements of Great Britain, in arts and arms, have given to the passing current of time a flavour and a colouring, which will confer upon her (humanly speaking) an eternity of renown, and make known to the latest posterity that political and intellectual grandeur, compared with which the boasted glories of Greece or Persia, Rome or Macedon, will fade into insignificance as specimens of childish strength,—the "rattles and the straws" of an infant world:

——————*Οὐκ ἀμνηστον, ἀθλια Πατρις,*
Κυδος μαρανθεν ἔγκατακρυψεις ζοφῳ.

Lycophron. Monod.

His Majesty's Ship ——— *at sea,*
Coast of America, August 1815.

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[*] I have this moment heard of the glorious result of the new war in Belgium and France,—and cannot help indulging myself in the triumphant reflections that follow. Their slender connection with the purport of my essay breaks the unity of the communication, and will give the jaded reader reason to say, that with my other faults, I have no skill in those "*calidæ juncturæ*" so indispensable in every piece of composition. To all this, and more, I am content to plead guilty, even before I am formally accused.

II.

Observations on the Utility of Blood-letting and Purgatives, in a Fever which prevailed in the Russian Fleet. By D. J. H. Dickson, M. D. F. L. S. Physician to the Fleet, and formerly Superintending Physician of his Imperial Majesty's Squadron in the Medway.

The following observations, so far as they relate to the general utility of early blood-letting and purgatives, in a fever which, on two occasions, prevailed in the Russian squadron in the Medway, under my superintendence, were written upwards of eighteen months ago; but, being then with the North-American fleet, I deferred the final consideration of the subject until my return.

In the meantime, I sent my remarks to Drs Douglas and Dobson, who, from having had the charge of the Argonaut and Trusty hospital-ships, appropriated to the reception of the sick, were peculiarly qualified to appreciate their correctness; and I requested to be favoured with such alterations and additions as their experience should suggest.

I have much satisfaction in bearing testimony to the skill, humanity, and attention evinced by these gentlemen in the very arduous situation in which they were placed; and I am bound equally to acknowledge their zealous co-operation on all occasions, and the readiness with which they have subsequently given me every information in their power. As their opinions are communicated to me as "the entire result of practice and observation, unwarped by prior predilection for any particular theory," I may fairly hope, that their coincidence with my own, as to the practical results, will give these greater weight than, individually, I could have expected them to possess. My object is simply to detail, with all the fidelity in my power, the features of the disease, and the success of the treatment adopted,—a duty which seemed, in some respects, to devolve upon me, and of which ill health, and other irrelative circumstances, have prevented the earlier fulfilment.

I have occasionally adverted to different authors as they occurred to me, in support or illustration of these remarks; but I have also frequently omitted to do so; and, from unwillingness to extend my references unnecessarily, have oftener alluded to my authorities, or given their meaning, as found in my note-book, than quoted their precise words. In ships recently and hastily fitted out, fever is so frequent an occurrence, that it would be superfluous to dwell upon the rise and progress of that in question, by explaining the consequences attendant upon the equipment of a large fleet, with the utmost dispatch, manned chiefly with landsmen, necessarily subjected to great changes in their diet, habits, &c. and unaccustomed to the privations and exposure incident to their new mode of life. During the voyage to England, sickness increased rapidly in Vice-Admiral Crown's squadron, which had been longer at sea, having sailed from Archangel to join the division at Cronstadt; and, by the time the fleet arrived in the Medway, fever had made so alarming a progress, that it became necessary to appropriate hospital-ships to receive the sick, which were immediately crowded with patients; several of whom were in a dying state, and many in the advanced stage of typhus.

To the previous exertions, and judicious arrangements, of Dr Weir, inspector of hospitals, I found myself greatly indebted upon my arrival, some time afterwards.

To the fleet, which, under the command of his Excellency Admiral Tate, consisted of fifteen sail of the line, and eight frigates, &c. were then attached twelve British medical officers,—the services of whom, and of those appointed on subsequent occasions, were of great assistance to me, and advantageous to the squadron. Exclusively of the milder cases, treated by them on board, the hospital and convalescent ships contained, at that time, about 300 patients; but, as shewing the prevalence of the disease, and the result of the treatment employed, it will be better to give the total number, by premising that, between the 18th of December 1812 and the 24th of April 1813, there were received by the Argonaut and Trusty 802 cases; and, again, between the 25th of September 1813 and the 3d of March 1814, were admitted 1006 cases; making in the whole 1808 patients in hospital, generally labouring under fever. Of this number, including convalescents at the time of my arrival, above two-thirds were under cure, and 109 died, during the periods of my inspection, comprehending seven months, which is nearly one man in eleven. The antecedent mortality had been double this proportion, which may be accounted for, by many, at the commencement, having been received in the last stage of the disease, whereas, afterwards, they were generally sent early;—by the greater malignity of the first attacks;—and also by the greater confidence and freedom with which the depletory system was resorted to, in proportion to its success. This, it may be presumed, would have been still greater, if the patients, in all cases, could have been sent to the hospital-ships at once; but, notwithstanding every injunction to this effect, owing to their distance from the fleet, the state of the tide and weather, and their frequently not complaining immediately, the fever had often made considerable progress before it was detected.

I ought here to observe, that the above dates (in both cases commencing with the reception of the sick into the hospital-ships, and ending when my appointment ceased, on the fever being subdued) comprehend two distinct periods of sickness; the ships having remained perfectly healthy from April 1813 till the following September, when fever was revived in the fleet by a large reinforcement of recruits having arrived in crowded transports; but as the disease and the treatment were the same, I have thought it best to give the aggregate result, and to state that my remarks apply to both periods; though in the former, the disorder had attained a higher degree of malignancy before it was controlled. Many of the first and worst cases, as already stated, were admitted in the last stage of typhus, with low muttering delirium, picking at the bed-clothes, subsultus tendinum, hiccup, squinting, and involuntary exertions,—and some with a vomiting of dark-coloured fluid, gangrene of the toes, &c.

When I joined the fleet, the fever, in both instances, had become less typhoid; it was reported to me to be "synochus, frequently terminating in typhus, and death, if copious evacuations had not been had recourse to at an early period of the disease."

It is highly important, here, to contrast the difference of symptoms under this practice, even in unfavourable cases, with those of the patients first received, which had not been controlled by depletion. The tongue was often parched, but not black; there was delirium, but not of the low muttering kind; subsultus tendinum, but without great nervous tremor; seldom involuntary discharges, and no strabismus, nor those appearances of putrescency which mark the close of malignant fever. It appears to me, therefore, an inevitable conclusion, that, by those remedies which repress inflammatory action at the commencement, those graver, or eminently typhoid symptoms, which characterize the advanced stage of such fevers, were prevented. But I am not anxious to designate the disorder, since it has been but too common to connect with the name peculiar ideas of a disease, modifying the treatment, which ought alone to be regulated by a knowledge of its nature and tendency, aided by the pathological light of dissection.

In proof of the highly infectious nature of this fever, in the first instance, particularly in the hospital-ships, where so much disease was concentrated, it will be sufficient to mention, that nine out of eleven medical officers, attached to the sickly division, and to the hospitals, were attacked in the course of a few weeks. It proved fatal to one surgeon and an assistant; and two assistant-surgeons belonging to the Trusty died of the consequences. I was one of the last taken ill, after having been exposed for little more than ten days; which may be readily accounted for, when the powerful exciting causes inseparable from visiting a distant, detached, and sickly squadron, in the middle of winter, are taken into consideration.

The contagion appears to have been particularly powerful in the Trusty, which ship had received the first, and consequently the worst cases; as not only the surgeon, and other medical officers, suffered severely, but twelve out of sixteen attendants, accustomed to the duty of waiting upon the sick, were seized with fever, four of whom died.

Several attendants in the Argonaut, two assistants, and ultimately the surgeon, were also attacked; but he informs me, that, with one exception, all recovered, in whom he had the advantage of combating the disease at its commencement. It is needless here to dwell upon the value of various prophylatic measures under the heads of separation, ventilation, dryness, cleanliness, better clothing, &c. to which my solicitude was chiefly directed, or the difficulties that opposed their execution. I may, however, remark, that the benefit was in proportion as they were practised, and that the disease gradually became milder, to which the decreasing severity of the weather, as the spring advanced, materially contributed. Indeed, although malignant cases still continued from time to time to occur, in the more general course of symptoms, such as I am about to describe, there was little remarkable; and without keeping in view the tendency to inflammation and disorganization which characterized the progress of the disease, there would have appeared little to warrant apprehension; but, as Dr Haygarth justly remarks, after describing the symptoms of Typhus mitior, sometimes even this mild typhus is fatal.

The invasion of this, like many other fevers, was generally preceded by listlessness, languor, and weariness, which, according to the old maxim, foretell disease. This state of indisposition to mental or bodily exertion, was followed by chilliness rarely increasing to rigor, prostration of strength, or a sense of general soreness and fatigue; pain of the head, back, &c.; anorexy, but seldom vomiting, and succeeded by increased heat, though the patient often complained of cold; frequent pulse, but varying in strength, white tongue, thirst, costiveness, and other symptoms of fever, which often continued for several days before any particular organ appeared to be attacked. In some cases, a higher degree of febrile action was early indicated by flushing of the face, sensibility and glossiness of the eyes, throbbing of the arteries of the neck and temples, with greater heat and anxiety of respiration; but though, in others, the accession was less strongly marked, and the patient made little complaint, except of headach at first, yet symptoms of increased determination to the breast, head, &c. supervened in a few days, unless anticipated; corroborating the observations of Riverius and Baglivi, as to the frequency of visceral inflammation in such fevers.

The features of fever are so infinitely modified, that I have no intention of delineating all the varieties in the present instance; but I trust I shall not be suspected of the less veneration for such great authorities as Dr Cullen, Fordyce, &c. if I notice here, that my observation has not tended to convince me of the propriety of holding forth an intermittent paroxysm as an epitome of continued fevers in general, or of considering them as merely a repetition of such paroxysms, more or less distinctly marked, with longer or shorter intervals.

I am, therefore, gratified by having since found that Dr Willan, in his reports for 1801, from close attention to the origin, symptoms, and termination of both, is of opinion, that no direct analogy subsists between an intermittent and a malignant fever, propagated by infection.

The most frequent occurrence in the disease under consideration was a sense of dyspnœa, and a cough supervening about the fifth day: in some it assumed more the appearance of simple pulmonic inflammation; in others of pneumonia typhodes. It was occasionally attended also with symptoms of cynanche, and swellings of the parotid and submaxillary glands, which, in a few instances, terminated in mortification and death; and gelatinous-looking effusions were likewise sometimes found in the trachea and bronchial vessels; but these varieties were comparatively rare.

Delirium and coma were very constant attendants at a more advanced period, in unfavourable cases; and it is hardly necessary to remark, that the danger was in proportion to the degree of stupor, and the depraved or oppressed condition of the sensorial and respiratory functions; while, in the more obscure cases, it was better estimated by the countenance, posture, and answers of the patient, than by the pulse or other prominent symptoms. In a few instances in which they occurred, an unpleasant cadaverous smell from the body, and much tremor of the hands and lips, indicating great depression of nervous energy, proved fatal symptoms. The same remark was particularly made to me in the Levant, as to tremor of the lips in the plague.

Some authors, as Sydenham, Huxham, &c. mention examples of spontaneous salivation proving critical in fever. Instances of increased determination to the salivary glands sometimes attended here, which could not be imputed to mercurial influence. In myself, without having taken any mercury at all, their action was excited by insensibly acquiring a habit of spitting frequently, until it amounted to complete ptyalism. It accompanied, and diminished with the disease in a remarkable degree on the seventeenth day, and had almost entirely ceased by the next morning.

It had always been considered a favourable omen, as indicating a less powerful character of fever, at least as far as relates to heat and vascular excitement; for in those of tropical climates, I have had but too many opportunities of observing that salivation could not be induced when there was a high temperature and strong inflammatory or febrile action; and I am therefore led to believe that its existence is incompatible with a rapid and ardent form of fever.

I may here add, that, as far as I may judge from personal recollection, the feelings which excited the greatest uneasiness and attention, were a throbbing of the temples for some nights preceding the attack, the headach in the first, and the cough in the latter stage of the disease, together with watchfulness, and a distressing sense of sinking, or extreme prostration, and a tendency to evening delirium, representing the presence of unpleasant objects; but generally so mild, that the mind became sensible of it when painful, and, by opening the eyes and fixing the attention, could be recalled from its alienation.

The duration of the fever was various, often protracted, and without any regular crisis. But, upon the whole, an amendment was, perhaps, most frequently observed on the eleventh day; though in numerous instances on the other odd days also, from the 7th to the 17th inclusive. Few recovered in whom a change for the better was not perceptible by the latter date, which is considered by Sir John Pringle as the most frequently critical. When the disease was prolonged, it generally left a troublesome cough behind, and an excessive degree of debility, from which the convalescence was extremely tedious, but when a crisis took place early the recovery was rapid.

Although I am not inclined to place much reliance on such calculations, which are very liable to error, the following number of fatal cases, in which the period of attack could be ascertained, shews a great predominance of the odd days: of fifty-six cases that proved fatal in the Trusty, within the month, two died on the 6th, 12th, 14th, and 28th days; four on the 7th; five on the 9th; nine on the 11th; ten on the 13th; six on the 17th; three on the 25th; one on the 8th, 10th, 15th, 18th, 19th, 21st, 24th, 26th, 27th, 29th, and 31st; and none previously to the 6th, nor on the 16th, 20th, 22d, and 23d days of the disease.

The appearances on dissection proved strongly illustrative of the frequency of local congestion and inflammation. There was hardly any organ which was not occasionally found diseased; but the parts most commonly altered in appearance and structure were the contents of the thorax, the brain, and the abdominal viscera. Of these the lungs, probably from the coldness of the season, and insufficient clothing, suffered most frequently; and the effects of inflammation were conspicuous in extensive adhesions of their investing membrane to the parietes of the chest, pericardium, and diaphragm; in effusions of coagulable lymph and serum, or the formation of purulent matter.

The heart occasionally, and oftener the pericardium, exhibited patches of inflammation, with spots of effused lymph, and had formed strong attachments. In one patient they adhered so firmly that the heart was torn in attempting to separate them. The quantity of fluid found in the pericardium varied: sometimes it was considerably increased; at others, there was little or none. In a few patients the liquor pericardii was very turbid, and like whey, or partly purulent: in one, there was about four ounces of pus. In several instances (in some where there was a deficiency, but also in others where it contained a portion of fluid) the pericardium was found so thin, dry, shrivelled, and transparent, as to have the most perfect resemblance to a piece of dried bladder. This desiccated appearance, which occurred more frequently in the Argonaut than in the Trusty, is mentioned by Dr Baillie as having been twice found by himself, and much oftener by Mr Hunter. The diaphragm also sometimes exhibited similar dry patches, and oftener erysipelatous inflammation.

Masses of coagulable lymph were occasionally found in the cavities of the heart, and some of a yellower and more fatty appearance than the other; but, instead of being inflammable, they also shrivelled up, and exhibited the character of albumen or fibrine, when exposed to heat. This separation is not uncommon, however, in patients dying of other disorders; and often takes place after death, and probably in protracted cases previously, or in *articulo mortis.*

Though strong traces of disease were not so uniformly observed in the brain as in the thorax, yet signs of previous excitement and congestion were often evinced by the fulness of its vessels, the increased vascularity, and sometimes the agglutination of its membranes; and by numerous ramifications of fine, and as if minutely injected capillaries.

Spots or specks of coagulable lymph were sometimes thrown out on the inflamed surface of the dura mater; and effusions of fluid on the outside, or into the ventricles of the brain. In one instance, about four ounces of lymph were found between the meninges; and in some, blood was extravasated on the surface, or in the convolutions of the cerebrum; indeed, effusions of blood or serum had frequently taken place, in those who died with symptoms of compression, about the 18th day.

The abdominal viscera, and their peritoneal covering, often displayed the remains of inflammatory action also, as had been conjectured from the pain on pressure; and the small intestines adhered to each other, and to the wasted omentum. Purulent matter, and serous exudations, containing portions of albumen, were likewise discovered, though less frequently in the abdominal than in the thoracic cavities; and though such effusions, as the consequences of inflammation, are best anticipated by the lancet, yet they may have been sometimes promoted by the intended remedy, if employed too late to be of service.

The liver was less frequently found diseased than was expected; but it sometimes bore marks of inflammation; and, now and then, its convex surface was of a spotted or erysipelatous appearance.

The gall-bladder was seldomer distended with bile than would have been the case, if purgatives had not been so freely employed. Occasional appearances betokened increased determination to the kidneys and bladder;—in a few instances the pancreas felt unusually hard, and firm;—the spleen sometimes exhibited disease:—and in one or two patients, a cartilaginous deposition, of the size of a crown piece, was found on its surface.

There was less affection of the stomach, both before and after death, than I have observed in any other fever.

These are the appearances, noted from the dissections made in the hospital-ships, which I recollect to have seen, or with which I have been favoured, as having most frequently occurred, from the sources I have already acknowledged. Without pretending to enumerate all the nicer changes, or shades of diseased structure, I merely mean to say, that one or more of the viscera became the seat of morbid action, to which the burthen of the fever was directed, either primarily, by local predisposition, or particular concurring circumstances; or was transferred secondarily by association.

Very many authorities might here be quoted in support of this alliance between fever and local inflammation; but it will be sufficient to refer to them collected in the works of Drs Clutterbuck, Beddoes, Mills, and other late writers. Mr Burns, in his treatise on Inflammation, says, "that typhus is always attended with an inflammatory affection of the head, and sometimes of the lungs or abdominal viscera, must be acknowledged by every one conversant in dissection."

In speaking of inflammation, however, it is necessary to keep in recollection the occasional red and vascular appearance of a part, which probably has been frequently mistaken for it. Such an appearance of vascular fulness, in the villous coat of the stomach, particularly from venous accumulation, has been often found where no suspicion of previous inflammation could be entertained; as has been well illustrated by Dr Yelloly in a paper of the 4th volume of the Medico-Chirurgical Transactions.

On the other hand, if it be granted that slight inflammations are dissipated after death, it follows, that, to estimate the early and less marked effects of this state, it is necessary that the investigation should take place as soon afterwards as possible. For we should keep in mind the remark of Bichât, that inflamed serous membranes soon lose their redness; and the observation of Drs Rush, Clutterbuck, and others, that congestion, or other morbid states of the brain, produced by disordered action, or minute, yet fatal changes of structure, may have taken place, yet leave little or no marks of disease after death.

Analogous to this, in yellow-fever I have observed the serous capillaries of the tunica conjunctiva red and turgid with blood, which disappeared after dissolution.

It would appear, therefore, that there is danger of error on both sides, unless when the pre-existence of inflammation is rendered unequivocal by adhesions, suppuration, extravasation, effusion, or considerable organic derangement.

Without further enlarging upon these morbid changes, they certainly go far to establish the connection between fever and inflammation in the present, and, by analogy, its frequency in other fevers; for, as far as I am acquainted, traces of inflammation, or of a state nearly allied to it, were discovered in such cases as had appeared to be the most purely idiopathic; and, even when the patient had complained of little or no pain during the disease, marks of increased determination or congestion were discovered in some organ after death.

It is therefore highly proper to bear in mind the extensive ravages which have been discovered on dissection, particularly in the glandular viscera, and which have oftentimes taken place, either without exciting sensation, or have been attended only with a dull low degree of pain.

Accordingly, it was often very difficult to appreciate, here, the extent of mischief going on, where it was only indicated by the maintenance of obscure febrile action, or by some sympathetic affection; for in some cases it was discovered to be considerable, when the patient had made little or no complaint; and in others, the injury was found to be much greater in a part which had not been suspected, than in that of which he had complained.

I cannot, in consequence, avoid noticing here, the obscurity in which the diagnosis is often involved, and the frequent risk of deception, arising from implicitly receiving, as the seat of the disease, the part referred to by the patient. We should never forget, as Dr Monro well observes in his Morbid Anatomy, that sympathy between near, and even distant organs, renders the source of disease obscure,—and that distant sensations, and sympathetic feelings, often create the most acute pain, and give the first notice of internal mischief. I need hardly observe, how peculiarly this caution must be applicable in the morbid state of the sensorium, arising from the complicated phenomena constituting fever, when the confusion or indistinctness of the patient's perceptions is so apt to lead him to refer his uneasiness to a wrong source.

The influence of one pain in obscuring another, as a physical law of sensibility, was well known to the father of medicine; nor has it escaped the universal observation of the father of our drama: "But when the greater malady is fixed, the lesser is not felt."

We have so many instances on record of concealed mischief going on in this way, which has not been suspected until developed by dissection, that it is of great consequence to have the errors of sensation, or, more strictly speaking, of reference, in fever, constantly in view; and I trust I shall be pardoned for pressing such sources of fallacy more generally upon the attention; since, by placing less reliance on the more prominent features, and by scrutinizing the minuter shades of disease, we become enabled to estimate the result more correctly.

In dangerous fevers, particularly where the brain is much affected, we have too often but a very inaccurate criterion, if we measure the extent and danger of diseased action by the pain, or by the state of the pulse, &c. Thus, while in many, these symptoms were amply sufficient to lead to the anticipation of a fatal event, it was difficult to reconcile the uniformity of this result in others, when they were much less considerable.

But, without attempting to reason upon a subject where the pathology is so obscure, and often, perhaps, evanescent, as that of the brain in fever, it may be remarked, that the fatal injury which this organ sustained, seemed oftener to be a secondary than a primary affection, and the consequence of sympathetic connection with some of the other primarily diseased viscera.

The idea of the brain suffering secondarily is farther countenanced by analogy; as, in many cases of wounds and accidents, in different parts of the body, we find that the apparent is often not proportional to the real danger; nor, except by sympathetic transference to the sensorium, is the local injury sufficient to account for the unfavourable result.

The perfect resemblance between sympathetic and original fever is here well worthy of observation; for often, consequent upon such local injuries, have arisen symptoms possessing all the characteristics of, and not otherwise distinguishable from, idiopathic fever; and indeed to this cause, viewed as an accidental and independent disease, the death of the patient in such cases has been, not unfrequently, but erroneously attributed.

The appearances on dissection which have been enumerated form a commentary on the observation of Riverius: "Febres acutas et malignas rarissimè sine visceris alicujus inflammatione incidere." They strongly demonstrate the propriety of venesection; and, accordingly, the benefit derived from this remedy was great in proportion as it was freely and early employed. When it could be so used, it was natural to expect that, in many instances, the disease would be crushed in its birth; but it seldom could be arrested when the symptoms had made any progress. In such cases, when the tendency to inflammation and congestion was lessened, but not destroyed, it often became necessary to resort to the repeated abstraction of blood; and although I was by no means friendly to this evacuation after the first days of fever were passed, yet that it was occasionally employed in smaller quantity, at a more advanced period, not only without any bad consequence, but with evident relief, I cannot doubt, not from personal observation alone, but from the different reports that were made to me on the subject.

When the fever could be attacked soon after its invasion, a large bleeding, repeated according to its effects, appeared to be the most beneficial practice in the Argonaut; and, if not sufficiently early to cut short the disease, it prevented or mitigated the symptoms of increased determination to the chest, or head, so apt to supervene.

In the Trusty, the treatment deemed the most successful was, where the patient lost within the first week or ten days between sixty and eighty ounces of blood, by taking away from sixteen to twenty-four ounces at a time. When the fever was violent, a larger quantity was abstracted in a shorter period; but it was not often necessary to exceed thirty-six ounces in twenty-four hours, at two or three bleedings. After the tenth day it was not often considered proper to bleed, or only in smaller quantities, when indicated by symptoms of pressure upon any particular organ, or by the appearance or renewal of inflammation. When this remedy had been neglected at the beginning, or the patient was admitted on an uncertain day of the distemper, small bleedings of six or eight ounces, repeated according to the effect, were found safer than larger ones, which might have proved too debilitating, and were serviceable in preventing or moderating the consequences of inflammation and congestion. An able physician, Dr Parry, in his Elements of Pathology, page 317, thinks "it is probable that subsultus tendinum, convulsive motions of the limbs, and hiccup, which often concur with delirium in various fevers, arise from long or violent irritation of the brain by sanguineous impulse." It is certainly in favour of this idea that effusions of blood or serum were generally found in the brain of those who died with these symptoms about the 18th day; and that, in some patients where small bleedings, graduated by the pulse, were tried even as late as this, when delirium, subsultus, startings, and coma, indicated an oppressed or irritated state of the sensorium, these symptoms were diminished, the respiration became freer, and the intellect more distinct after its employment. Under this treatment some apparently hopeless cases assuredly recovered; but it oftener failed. It is allowed that the presence of fever is most certainly detected by the state of the animal functions, and of the pulse; but to the latter there are many exceptions. I need not here adduce the many authorities that might be quoted in support of my own observation, to shew that the pulse, in many cases, has been found little affected in the worst fevers; that it is often little, if any, quicker than natural; and that it is sometimes preternaturally slow. But I believe it to be unnecessary to dwell upon its fallaciousness, or on the little information it often affords as to the propriety or quantity of blood to be taken, particularly where the head is much affected. In the early stage of disease it is often small, low, feeble, and irregular, previous to considerable reaction; but, when the accession of this state is characterized by increased heat, hard, full, and frequent pulse, throbbing of the carotids, and other symptoms of excessive determination, the indication is sufficiently manifest. This state of increased action, however, does not always follow, but the pulse continues low and contracted, or labouring and oppressed, until relieved by evacuations, when it rises, becomes fuller, and more equal;—an effect which, with correspondent improvement in the intellectual powers, I have often seen produced by purgatives, as well as by venesection, in tropical fevers.

In this depressed state, the employment of a remedy, by no means passive, requires nice discrimination; for it is necessary to distinguish between that period of diminished energy preceding reaction, where it would prove injurious, and that in which, to use the language of Sydenham, "all the symptoms of weakness proceed from nature's being in a manner oppressed, and overcome by the first attack of the disease, so as not to be able to raise regular symptoms adequate to the violence of the fever," until "it could disengage and shew itself" by bleeding. Vol. II. p. 351.

It is impossible, therefore, from the state of the circulation, to lay down any infallible criterion for the employment of bloodletting in fever. The safest is the hardness of the pulse, and a white tongue, as indicating inflammatory action; and, upon the whole, it was generally considered at least safe to bleed in the early stage, where the heat was increased, and the pulse above 100.

The degree of resistance of the artery against the finger was considered a better guide than the size of the pulse; if it was firm and equal, bleeding was generally proper; if easily compressed, soft, or undulating, the contrary; if it felt tense, or corded, or the stroke was described as sharp, harsh, jerking, or rebounding, it was considered indispensable; but, in using such terms, we must be aware how difficult it is to attach precise and determinate meanings to words, and that the same pulse will be described very differently by different reporters.

In speaking of the fallacy of the pulse, I ought not to omit noticing the unequal distribution and power of the circulation which not unfrequently obtain in fever, as another source of error, if we judge of its force, in the vessels near the heart, by those of the extremities; for it may be strong and bounding in the central, yet weak and languid in the distant arteries. Some marked examples of this kind occurred from exposure to severe cold for several hours in boats after depletion; in consequence of which, I grounded my application of the necessity of having a decked vessel to convey the sick to the hospital-ships. These patients, notwithstanding the application of warm blankets, &c. continued to complain of an extreme sense of chilliness, with coldness, and a sunk languid pulse in the extremities, while the face was hot and flushed, and the large vessels of the neck and head were greatly excited, indicating what Mr Hunter calls action without power, and shewing the danger, in such a case, of appretiating the state of the internal circulation by that of the radial artery. This unequal and partial distribution of heat, which seems to have engaged the attention of the ancients much more than the pulse, is very unfavourable in fever; and the same is the case whenever the actual condition of the patient and his feelings are much at variance; as, for example, when he complains of a much greater degree of either heat or cold than is indicated by the touch or by the thermometer.

With respect to the comparative advantages of large or of frequently-repeated small bleedings, in early fever, both plans were employed here, and with various results; the latter may be often useful and safe, where the former would be inadmissible. But, at the commencement of the attack, or where some important viscus is threatened with inflammation, I must give a decided preference to the large and sudden abstraction of blood, while there is yet any chance of anticipating or removing congestion, or of cutting short the fever. The one will, of course, be preferable while we have these objects in view; the other may be useful in mitigating symptoms where the expectation of crushing the disease can be no longer indulged. It is also evident, that the occurrence or renewal of inflammation later in fever may justify a cautious and limited detraction of blood, when the loss of a larger quantity could not be borne.

The same advantages were derived from venesection in cases of relapse. Mr Sheppard, who was surgeon of the convalescent ship, upon whose judgment I place great reliance, remarks: "From cautious experience of the advantages of blood-letting, the activity of fever often induced me to bleed largely, occasionally twice or thrice within the first twenty-four hours of the relapse. Nothing short of experience of decided benefit from this remedy could have justified the practice in that state of disease." He further observes: "Notwithstanding the advantages resulting from depletion, the blood drawn exhibited no inflammatory character."

The total amount of blood most frequently abstracted in the course of this disease has been already stated; but in some few extremely plethoric and robust constitutions, from 100 to

150 ounces, and upwards, were taken away, with both successful and unsuccessful results. In one case of extremely violent fever in the fleet before my arrival, and where extravasation was afterwards found in the brain, I was informed that 200 ounces of blood had been withdrawn; but there are very few, if any, instances where the propriety of so large an evacuation may not be held questionable.

Like the pulse, the appearance of the blood was not a faithful index of the expediency of venesection. Though frequently, it did not generally exhibit the buffy coat; and, in many cases where it was soft and florid at first, it became firm and buffy under subsequent bleedings. However, if there was a large proportion of crassamentum, this remedy was not deemed less necessary.

In many instances the coagulum seemed soft, and as if dissolved in the serum; while, in others, the surface appeared like half-warmed jelly. In blood drawn late in the disease, or examined afterwards, the serum was often found of a firm gelatinous consistence, and of a straw colour, with not an eighth part of crassamentum, and that of a very loose texture, and of the appearance of currant-jelly. The presence of petechiæ did not prevent early depletion in this disease. On the contrary, they were obviously connected with increased excitement, and determination to the surface, and very often disappeared after, though they were not always prevented by the detraction of blood. It is, however, necessary to discriminate between petechiæ occurring at an early, and those which sometimes appear in the last stage of fever, when the circulation is languid, and the vital powers are failing.

In estimating the general value of phlebotomy, considerable allowance ought, no doubt, to be made for circumstances, such as the season of the year, and the robust habits of the Russians; but it was also practised upon the attendants and others with similar good effects, and, the reports add, upon the old as well as the young;—an observation which I should feel considerable hesitation in receiving, without explaining that there were very few with aged or debilitated constitutions.

In a typhous fever which afterwards prevailed among the Danish and American prisoners of war, and in which a glossy and turgid appearance of the eye was often the first indication of the disease, Dr Dobson of the Trusty informed me, that he found venesection attended with the same success as in the Russians; but, while he is firmly of belief that no other plan was equally successful, he candidly acknowledges that, in many cases, his expectations from the lancet were altogether disappointed, while, in others again, it seemed to save several who were studded with petechiæ,—a symptom that often manifested itself within thirty-six hours of the attack. After reverting to the failure of the lancet in cases where he had reason to expect success, he concludes,—"But these failures by no means argue against the propriety of the practice, where no other measure was equally successful; inflammation was still present, and to its consequences death was, in every case, clearly proved by dissection."

In endeavouring to account for this contrariety of result in cases seemingly analogous, the operation of moral and physical causes, and particularly the varying influence of confinement and mental depression on different constitutions, with many other considerations, ought not to be overlooked.

To those who would infer that, if fever and inflammation be so frequently connected, and follow each other in the relation of cause and effect, blood-letting ought to be more uniformly proper and successful in fever, it may be answered, that, even could its existence be always immediately ascertained, yet such is the variety in the kind and degree of inflammation, according to the seat, nature, and period of the disease, as greatly to modify the result; for, in fact, with the exception of greater fulness of the vessels of the part, owing to the peculiarity of structure and the mutability of the animal powers, very different, and even opposite conditions, have been comprehended under this general term. It therefore by no means follows, that this operation should be indiscriminately resorted to; or, even setting aside its injudicious employment as to time or quantity, that it should be expected to prove uniformly successful in fever; for we know that this is far from being the case even in the purer phlegmasiæ, and that the diseases of this order neither always admit, nor can they be always arrested by extensive depletion. Upon the whole, however, I am inclined to think that the results were more favourable in the Russian than in the later fever; and, after making all deductions, that they were amply sufficient to prove the great superiority of this mode of treatment. The whole of the medical reports, and particularly those of Dr Douglas, concurred to substantiate the efficacy of early and decided blood-letting; and, when the many bad cases admitted into both establishments are taken into consideration, I think it may be fairly concluded, that the success was fully as great as could be expected in a disease so complicated as fever, and so often attended with dangerous congestions. Farther than I have above stated, I cannot pretend to lay down any precise directions for the employment of venesection. The difficulty of going beyond general rules for the use of a remedy whose power is so much dependent upon the fluctuating state of the animal economy under disease, will be readily acknowledged. We must be guided by the evidence of local affection, by the nature, temper, and period of the disorder, and particularly by the actual effect produced by the operation; for, in different circumstances and persons, it will be borne with very different results, under symptoms apparently similar; hence the discordance of opinion,—the applause and censure that have attached to this remedy, since the earliest eras of medicine. What I have seen certainly authorizes me to believe that early blood-letting may be extended to cases of fever, in which it has been generally considered at least equivocal, if not prohibited. In favour of its late employment, which must ever require great caution and discrimination, and which can only be justified under very pressing symptoms, I have nothing whatever to say beyond what is comprised in the maxim of Celsus, "Multa in precipiti periculo recte fiant, alias omittenda."

In farther support of these observations, I might here adduce, were it necessary, many high and well-known authorities, ancient and modern, in behalf of blood-letting in fever. But such a review would far exceed my object, which is impartially to pourtray its effects in the disease in question, not to advocate its cause in fevers in general; certainly not the indiscriminate or incautious application of this remedy, in habits debilitated by disease, intemperance, long residence in warm climates, or in unhealthy situations;—far less to countenance its rash employment late in this disorder. On the contrary, I am well persuaded that its late or injudicious use in dangerous fevers, such as those I have been most conversant with in the West Indies, would infallibly accelerate the fatal catastrophe; but, in climates where the disease is far less rapid, and where, from experience of its nature and tendency; of its pressure upon some vital organ; or of the inefficacy of other modes of treatment, we have reason to apprehend that it will run on to a fatal termination unless relieved, we are certainly warranted in making the attempt; and the success with which it was made in some of the above instances alone, is, I conceive, sufficient to justify this conclusion.

In leaving to be weighed in the varying scale of opinion the above evidence in behalf of early blood-letting, as a remedy for fever, the inference that the reverse of this proposition has often been assumed from theory, and not from experience, will probably be allowed to have some influence with the most sceptical, when it is reflected, that they who have written in its favour have practised what they recommend; while it is hardly to be supposed that the humanity of those who are against it would permit their giving a fair trial to a measure which they believed to be injurious. In this fever, unfortunately, the cold affusion was but seldom deemed admissible, from the frequency of pulmonary, or other topical congestions.

Without entering into the different views with which epispastics have been used, they were employed with their usual good effects in mitigating pain and local symptoms; and they often proved serviceable in relieving the head at a later period of the disease.

It is, I trust, every day becoming less necessary to say any thing of the ill effects of opium, bark, or wine, in the early stage of continued fevers; in the debility left by the disease, the latter proved a most valuable and grateful cordial.

In appreciating what has been said of the effect of venesection, it should be recollected, that, in all cases, purgatives were freely used at the same time.

It is now well understood, that the value of the latter class of remedies is not limited to the mere removal of the fecal contents of the bowels, but that they may be so managed as to obviate or relieve a tendency to topical congestions elsewhere; and also to produce a considerable effect upon the general system, by the increased quantity of fluids they cause the various glands and exhalent arteries to pour into the intestines.

Thus they become not only eminently subsidiary when blood-letting is proper, but more universally useful in diseases in general, in proportion as they are more uniformly applicable.

They were here considered not only indispensably requisite in the first instance, and assisted by enemas when necessary, but they were liberally exhibited throughout the disease; and very often the bowels could not be kept sufficiently active unless they were repeated day after day. Though not a new, it is a most important observation, that all uncertainty as to the full operation of this class of remedies can only be removed by inspection, without which the practitioner is very apt to be led to imagine that the patient, from his own report, or that of the nurse, has been sufficiently purged, when, at most, he may have had only two or three partial scanty dejections. There is another reason for this; purging, though oftener carried to an insufficient length, I have reason to believe, in some instances, has been pushed too far, and hence its due limits can only be ascertained by personal observation. While we are producing foul, dark, fetid evacuations, we may naturally expect that we are benefiting and relieving the patient; but when the bowels have been freely cleansed, and the system does not require further reduction, to keep up a constant state of irritation, by purging, can only prove wasting and injurious.

On the other hand, by those that have not had much acquaintance with fevers, it is hardly possible to calculate the quantity of medicine sometimes required to overcome the torpor of the intestinal canal; the morbid accumulations that have been discharged, after repeated purgatives; and, in some cases, the speediness of their reproduction.

In tropical fevers, especially, I have seen very striking examples of the abatement of fever and delirium, after the operation of purgatives; and it is therefore of great consequence to be aware, that the febrile symptoms are often maintained, or renewed, by the retention of vitiated secretions, or other morbid contents of the intestines; as also of the quantity of dark coloured offensive matter that is often discharged, after the patient has been thought sufficiently purged, and its speedy reaccumulation, in some cases, in order to estimate the extent to which it may be necessary to persist in the use of evacuants.

The choice of purgatives was not restricted in the present fever, where the stomach was so retentive: jalap and calomel was the purge most frequently employed, and, upon the whole, perhaps, the most efficacious. The latter was found a valuable addition to other cathartics, but it was seldom exhibited with any farther view, as the biliary system was little affected, and chronic visceral derangement, as a consequence of fever, rare.

Dr Fordyce, and other eminent practitioners, have observed that medicines of this class, when combined, occasion less sickness and pain, and are more certain in their operation, than when taken singly; a remark in which I beg fully to coincide. A mixed purgative, I am clearly of opinion, operates more effectually, and, at the same time, more easily, and in a smaller dose, than any remedy of this description individually.

Upon the whole, although, from their general and extensive utility, purgatives claim a great superiority in the treatment of various diseases, and of fever in particular, yet their value ought not to derogate from the efficacy, nor supersede the use of other agents; for, in the severer forms of fever, we find that bloodletting, purging, and the cold affusion, greatly, and mutually, assist each other.

Clifton, February 1816.

III.

On the Malignant Fever which prevailed at Gibraltar in 1813, *and its Treatment by Blood-letting.* By J. HUMPHREYS, Assistant-Surgeon, Royal Artillery.

THE Bilious Remittent Fever, which has long been prevalent in Gibraltar during the summer months, assumed a malignant form in the month of August 1813. As this disease has proved so very destructive in this fortress for the last two years, exciting a peculiar interest in every class of society here, and has been subject of alarm to the greater part of Europe, I beg to transmit the following observations for insertion in the Edinburgh Medical and Surgical Journal.

My object in submitting a few remarks on so important a subject to the consideration of the medical world, is to recommend blood-letting and the depleting system; and to shew that this mode of treatment, instead of producing deleterious effects, and adding to the already existing debility, according to the opinion generally entertained by the medical officers in this garrison, is, on the contrary, attended with instantaneous relief of the distressing symptoms, and the extreme prostration of strength, and at once cuts short the disease, as will appear by the cases which I shall subjoin, and which came under my own immediate treatment.

On the first appearance of the fever in 1813 in its aggravated type, a report was spread, and generally believed, that it was contagious; the garrison was immediately placed in a state of the strictest quarantine, and families became so exceedingly alarmed from a supposition of its being highly so, as to shut themselves up, refusing admittance even to their friends. I do not, however, concur in this opinion, and hope to shew, in a satisfactory manner, by many instances which I shall adduce, that no contagion existed. The disease, at its commencement, attacked persons in different parts of the town at the same time, who were very remotely situated from each other, and those who shut themselves up, and considered themselves secure, being perfectly insulated, were attacked as readily as those who mixed indiscriminately with the people as usual; shewing clearly that the disease was produced by general local causes, acting on the whole population of the place, and not imported, of which no satisfactory assignable source has ever been traced; nor do I think it probable that contagion is of that peculiar nature, as to shew itself in different years precisely at the same season, having lain dormant and inert nine months of the year, and then burst forth to commence its devastating influence.

The local causes which appear to me to have given rise to this so much dreaded and formidable disease, are principally the following: The excessively crowded population of the place; the houses and sheds being literally huddled together in so limited a spot, without arrangement, and of the worst construction; the doors and windows being generally on the same side of the apartments, so as to preclude a free access of air and ventilation; and among the lower orders of Portuguese, Spaniards, and Jews, these dwellings are usually shut up during the whole of the day, from sunrise to sunset, consequently, on their return, they must breathe a very impure air, almost wholly deprived of its oxygen; the immense collection of animal and vegetable matters, arising from so great a population, during the dry summer months, remaining stagnant from May till the end of August, and which become roused into action at the end of the autumnal season by the partial rains, when the quantity of water is not sufficient to propel them through their respective drains, which are too narrow for their evacuation, being frequently choked and bursting. At this season, also, the heavy night-fogs, succeeded by a parching sun, occasion exhalations extremely noxious and unwholesome. To these may be added the peculiar situation of the town, which is on the western foot of a steep rock, about 1400 feet in height, running nearly north and south, the air remaining nearly stagnant during the prevalence of the easterly winds, which continue with but little variation the whole summer.

Having enumerated such of the local causes as I conceive to be the leading and most prominent, in aggravating the bilious remittent fever, which we here witnessed in the years 1813 and 1814, I shall now proceed to state some striking examples.

A lady, an officer's wife, residing in the Moorish Castle, which is considerably above and out of the town, never left the castle, and was so alarmed that she would not allow any individual to approach her; and after the fever had existed five weeks or more, she fell ill and died of it; her husband, who was constantly at her bed-side during her illness, escaped the disease.

Similar precaution had been taken by the Ordnance storekeeper, Robert Pringle, Esq. who had adopted the most rigid quarantine for more than three weeks, yet he did not escape. As his was the first case where I ventured to deviate from the common mode of treating the disease, and as it terminated successfully, contrary to the opinions of the medical officers, and others who knew him, I take the liberty of giving an outline of it. He was seized suddenly with the common symptoms, as cold shiverings, violent pain of the head, loins, and calves of the legs; great pain and redness of the eyes, dimness of sight, vomiting, hot dry skin, coated tongue, and quick strong pulse. I took away immediately forty ounces of blood. After the loss of twenty ounces, he expressed great relief, and begged of me to continue it, which I did till the above quantity was abstracted. His head became instantly relieved; he could see distinctly, and his pulse, from 125, was reduced to 90. I ordered him a strong purgative of calomel and jalap, and cold water, with vinegar, to be applied to his forehead. Four hours afterwards I visited him again. Found that his head was entirely relieved, but some pains of the loins and calves of the legs remaining. He had had some sleep, his skin was moist, his bowels were moved, and his pulse nearly natural. He was directed to take three grains of calomel every three or four hours, and on the fifth day he was perfectly recovered. Mrs Pringle, who was constantly with him, escaped, as did the children.

Seeing, from the above case, that bleeding and the depleting system was attended with beneficial effects, instead of bringing on extreme debility and certain dissolution, as I was told it would, I was induced to try the same system with the next patient I might be called to, which was an officer of the Royal Engineers. I found him labouring under the symptoms of the prevailing fever, complaining of an extreme pain of the head, loins, and the calves of his legs; pain and redness of the eyes, dimness of sight, hot skin, quick pulse, and bilious vomiting. I opened a vein in the arm, and drew away thirty-six ounces of blood. His head was immediately relieved, as were his eyes, loins, and legs; and his pulse, which was 120 before bleeding, was reduced to 92. The same treatment was adopted as with Mr Pringle, and in a few days he was recovered. Four others of the officers of Engineers were ill with the fever in 1813; three of them I bled largely, and all in a few days recovered; but the other, Captain C——, I did not bleed; his attack was slight, and gradually ran into that insidious form which has too often deceived me. He was extremely ill for several days, and suffered the most severe gastric symptoms I ever witnessed. The vomiting was so distressing and frequent, that nothing for three days would remain on the stomach. He had occasionally hiccough, which lasted some hours, extreme anxiety and restlessness, a dry coated tongue, great thirst, a small quick pulse, delirium, and a yellow suffusion all over the body. Had I taken blood from him at the attack, although the symptoms were not violent, I have no doubt, by similar cases which I witnessed in 1814, that I should have spared him all the agonies he suffered. Three servants to officers of Engineers, and several men in the ordnance department, were bled by me, and all of them in three or four days recovered. The master cooper of that department I ventured to bleed some hours after the attack. He was taken suddenly ill with every symptom of the disease, and would not be convinced for some hours that he had the fever, till his head became so violently painful, that he could not bear it moved, and his eyes looked red. I was then desired to see him. I found him complaining of severe pain of his head, pain of loins, and calves of the legs; eyes suffused, flushed countenance, hot skin, quick pulse, dry coated tongue, and bilious vomitings. I bled him to forty ounces, and he expressed, directly afterwards, that his head was entirely relieved; that he could see objects distinctly, and that he felt considerably better. Purgatives were given; cold applications of vinegar and water were directed to be applied to his head; and on the fifth day he was well enough to resume his duty. His wife and attendants remained free from the disease.

Many other cases I could adduce of persons who were bled and recovered; not one died whom I had the sole charge of, that lost blood; but I imagine that these alone will be sufficiently illustrative, that bleeding has not the effect of causing that extreme debility which it is said to have in this disease. Instead of producing debility, or deleterious effects, it is the very measure that prevents these happening. The debility that we find arises from the increased vascular action not being reduced. The heart labours exceedingly, and, if the volume of blood is not lessened, it continues to beat till absolute exhaustion ensues, or the destruction of some important viscus essential to life. The disease must then take its course; incessant vomiting comes on, terminating in the black vomit, delirium, suppression of urine, hiccough, small indistinct pulse, and the whole train of mortal symptoms. Wine, bark, opium, brandy, æther, and all the stimulants, we know to have but little effect when the disease is allowed to arrive at this advanced stage, from active measures not having been employed at its commencement.

Many have been saved without losing blood, but, generally speaking, the attacks were slight, and quietude, with a little medicine, and the great aid of nature, which alone will frequently accomplish cures, would be sufficient to restore them again to health; but the medical attendant is too often deceived in these called slight cases. At first, the patient does not suffer much; he complains but of little pain of the head, loins, or calves of the legs; the eyes are but slightly suffused, and, in moving them, not much pain is excited; the skin has not that burning feel, and is sometimes moist; the pulse not full, or much accelerated; tongue triflingly coated, and vomiting not severe. If these symptoms do not increase, the case is indeed slight, and purgative medicines, cold affusion, confinement to bed, and the starving system, will frequently effect the cure. But in a few hours these symptoms commonly increase, and on the third day the stomach becomes irritable; the pain of the head and loins much increased; the patient complains of difficulty of making water, and when passed it is high-coloured and scanty; the countenance assumes a most expressive and anxious cast, and the patient becomes extremely uneasy and restless; the head, breast, and upper extremities, slightly tinged with yellow; pulse about 120; tongue dry and coated; and great thirst. On the fourth day the patient is delirious; he has frequent vomitings, and the contents thrown up are slimy, and similar to the grounds of coffee; a suppression of urine; the whole body suffused; a small vibrating sort of pulse; the mouth parched, with sordes adhering to the teeth, gums, and lips; a severe and constant pain at the pit of the stomach; and, in a few hours, the scene of life is closed. This is the insidious form of this destructive disease. We ought not, therefore, to consider it as a slight attack exactly, and place our dependence in purgatives, the cold affusion, diuretics, &c. for a cure, which is now and then effected by them where the symptoms do not exceed what I have above mentioned; but if, in five or six hours after the attack, there is an increase of pain, the eyes more suffused, and the pulse more frequent; if, instead of 90, it is 100, or exceeding that, blood-letting should immediately be had recourse to. By this measure we are acting on the safe side, as we find the head relieved, the dimness of sight removed, and the heart, which was beating forcibly, lowered to nearly its natural action; the patient after this falls asleep, and generally perspires freely.

In witnessing this disease again in 1814, I was fully convinced of the utility of observing closely the insidious form of attack, and of bleeding instantly upon the increase of symptoms; it, in every case, arrested the progress of the disease, and saved the patient. On the contrary, where the lancet has not been used, medicine and its auxiliaries have rarely had the same effect, and death has been too frequently the consequence.

What has been said will probably not be sufficiently convincing to those who were, and still are, averse to blood-letting in this disease; but I should hope, that, when I am able to assert that every patient but one labouring under this fever in 1814, who was bled by me, and under my own immediate charge, recovered, it will be acknowledged to have some weight in favour of bleeding; the one who died, it is necessary to remark, had been suffering some time from visceral obstructions.

It is now pretty well established as a fact, that the fever is local, not imported, or propagated by contagion; that all the regulations of quarantine, and other precautionary measures, have had but little effect in either preventing or lessening the ravages of the disease; that the fever is alone influenced by the season of the year, and gradually lessens in severity as the cold weather, with wind and heavy rain, succeed to the autumnal heat; and that the only measure found decidedly efficacious, has been the removal of the people from the western side of the rock, that is to say, from the range of action of the local causes.

As I have endeavoured to inculcate the necessity of evacuating blood in the early stage of this disease, and of the depleting instead of the stimulating system, it may be deemed necessary to describe the appearances which I usually observed on dissection after death. They were as follows:

The body externally of a pale yellow colour, and very offensive. On removing the skull-cap, the dura mater extremely vascular, and turgid, as was the surface of the brain. Cutting into the substance of the cerebrum, the vessels much injected, and the cut surfaces soon became covered with blood, and, in some instances, three or four ounces of serum have been found in the basis of the cranium. On opening the abdomen, most of the viscera in the cavity inflamed, the vessels of the omentum, mesentery, large and small intestines, very turgid. The stomach contained a quantity of a dark or black slimy fluid, adhering closely to the internal coat, which was red, and also inflamed. The kidneys generally of a livid cast, and, when cut into, there was in some an unusual quantity of a purplish-coloured fluid. The urinary bladder sometimes found to contain two, three, and four ounces, and, in other instances, scarcely any water.

Gibraltar, 31*st July* 1813.

IV.

Proofs of the Bulam Fever attacking the Human Frame only once. By W. Pym, M. D. Inspector of Hospitals.

In my observations upon Bulam Fever, page 122, I have mentioned that all the officers and men quartered in Gibraltar during the prevalence of the fever in 1809, who had had it at a former period in the West Indies, escaped it.

And, at page 27, that, out of the whole civil population of the garrison (amounting to nearly 14,000), only 28 persons escaped an attack of it; and of this small number 12 had had it at a former period, either in America, in Spain, or in the West Indies.

At Gibraltar, during the prevalence of the disease, in the years 1810, 1813, and 1814, there was no well-authenticated instance of a second attack; every person escaped it who had had it at any former period. And this fact is now so well established there, that, among the quarantine regulations against the introduction of the disease this year (1815), all the troops who have not passed the disease are encamped, while those who have passed it are doing the duty of the town.

At Cadiz, Carthagena, and Malaga, the fact of persons not being liable to a second attack of this disease is considered to be as firmly established as it is in small-pox.

The following circumstantial evidence respecting the malady at Gibraltar in 1804, establishes the fact beyond a doubt. In the corps of Royal Artillery, there were only two officers who escaped an attack of it, viz. General Smith and Captain Campbell, both of whom had had it some time before in the West Indies.

In the corps of Royal Engineers, there was only one officer, viz. Captain Thackery, who had had it in the West Indies; and he was the only one who escaped it, excepting Colonel Fyers, who kept himself and family in quarantine.

In the 2d, or Queen's Regiment, there were five officers, viz. Colonel Jones, Major Kingsbury, Captain Walsh, Paymaster Wainwright, and Assistant-Surgeon Borlase, who had had it in the West Indies, and all escaped it, when every other officer in the regiment was attacked by it.

In the 10th Regiment, every officer was attacked by it, excepting Captain Carpenter, who had had it in the West Indies.

In the 13th Regiment, there were seven officers, viz. Lieutenant-Colonels the Honourable C. Colville, Dance, Scott, Major Belford, Captain Wilkinson, Quarter-Master Murray, and the Adjutant, who had had it in the West Indies, and all escaped it at Gibraltar, when every other officer in the regiment was attacked by it.

This same regiment, with five of the above named West India officers, and ten who had had it at Gibraltar, embarked for the West Indies in 1808, where they all escaped the disease, although eight of the newly appointed officers fell victims to it.

In the 54th Regiment, all the officers were attacked by it, excepting Colonel Derby, Captain Lowis, and Surgeon V. Dwyre, who had had it in the West Indies.

This regiment, in 1808, returned to the West Indies from Europe, filled up with new officers and men, and, after being 18 months in Jamaica, was attacked by and suffered severely from this disease, when all those who had had it at Gibraltar escaped it.—*Vide my Observations upon Bulam Fever, Mr Redmond's letter, page* 73.

In the corps of Royal Barrack Artificers, every officer and man was attacked by the disease, excepting Sergeant Jones, who had had it in the West Indies.

In the regiment of Rolle, there was only one officer, viz. Lieutenant Muller, who had had it in the West Indies, and he was the only officer in the corps who escaped it.

The medical men at Gibraltar, during the first 10 weeks of the disease, were 24 in number. Six of them had had it in the West Indies, and all escaped; the remaining 18 were attacked by it, of which number seven fell victims to it.

One more proof of the Bulam fever not attacking a second time was in the 70th Regiment, which suffered severely from the disease in the West Indies, in the year 1794. This regiment returned to that climate from Europe in the year 1800, filled up with new officers, with the exception of six, viz. Colonel Dunbar, Major Elliot, Captains Johnstone, Lawrence, Hutchinson, and Boat, who had had the fever at a former period, and who now escaped it, although the corps buried ten of the newly appointed officers in a very short time.

The 55th Regiment, quartered at St Lucia, in the year 1796, was nearly annihilated by yellow-fever, when the skeleton of the regiment returned to England. There it was filled up with new officers and men; and, after being six years in Europe, arrived in Jamaica in the year 1802, where it again suffered severely from the same disease, having buried 21 officers. The surgeon of the regiment, Mr Macmillan (now surgeon to the forces), says it is worthy of remark, that every individual in the corps was attacked by this fever, excepting himself and ten of the officers, who had had it in the year 1796.

Upon a moderate computation, there were 150 officers at Gibraltar who had not had the disease before, and 25 who had passed it in the West Indies; and, making allowance for one or two doubtful cases, where the disease was so mild as not to confine the patient to bed, 145 at least out of the 150 were attacked by it, while every individual of the 25 who had had it before escaped it;—proof positive that the Gibraltar, West India, or Bulam fever, are the same disease, and that the human frame is not liable to be attacked by it a second time, even after a lapse of ten years.

The 13th and 54th Regiments are proofs that persons who had it in Gibraltar are not liable to it in the West Indies. I have given numerous proofs that persons who had it in the West Indies were not liable to it at Gibraltar. And the 13th, 55th, and 70th Regiments, prove that persons who had it in the West Indies are not liable to a second attack upon their return to that country, after having been several years in Europe.

I am truly surprised that its peculiarity of attacking the human frame but once, has not been sooner known; and now, that it is mentioned, that it has not excited greater attention. Lining mentions it particularly, in the Edinburgh Medical Essays, 50 years ago. In Sauvages' last editions, about 1768, it is positively mentioned. The English have long known the fact under the name of *seasoning*, and the French of *tribut*, *acclimaté*, *or une idiosyncrasie réfractaire à la contagion*. Monsieur Berthe, in mentioning the disease at Cadiz, says, "Le petit nombre de ces individus *ainsi privilégiés* a été observé parmi ceux qui avaient habité les Antilles." The emigrants from St Domingo were proof against the contagion of Philadelphia in 1793-4. But vaccination was long known in Gloucestershire to the dairy-men before Dr Jenner's discovery; and, with respect to my discovery in the yellow-fever, I cannot give it up to the Spanish practitioners. I made the discovery that the West Indians were proof against it on the 20th *October* 1804, or rather the 19th, for that was the day that I requested Sir Thomas Trigge (governor) to order the men who had been in the West Indies to be paraded.

The first Spanish physician that mentioned it was Arejula, and he did not publish until 1806. Sir J. Fellowes gives the credit of it to the Spanish physicians generally. No individual one has claimed it. It certainly was not known among them in 1803; nor do I believe it was ascertained in 1804, until after the time that I discovered the non-liability of the West Indians, when I requested my friends in Gibraltar to write to Malaga and Cadiz, where inquiry was made, and the fact proved.

London, 6*th January* 1816.

V.

A short Description of an Obstinate Inflammatory Affection of the Throat. (*With an Engraving.*) By James Murray, Surgeon, Belfast.

I am anxious to draw the attention of the profession to a disease of the throat and palate, which sometimes occurs in this country, affecting the fauces and adjoining parts in a very painful manner, appearing of a chronic inflammatory nature, but so obstinate, as to yield to no remedy now in use. It is confined to adults of a melancholic temperament and relaxed habit of body.

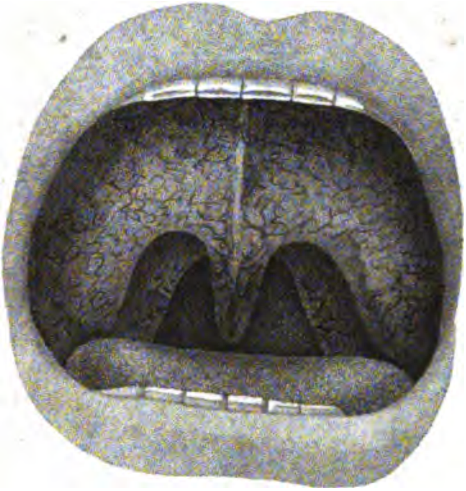
The annexed representation of this complaint will convey a better idea of its appearance than any verbal description I can give. After exposure to damp and cold, the patients complain of a tickling in the throat, attended with great heat, and the sensation of having been blistered, gradually extending over the palate and Schneiderian membrane, exciting much uneasiness and itching in the nose and all the affected parts.

On inspecting the throat, the tonsils are found enlarged, and of a dark red colour. The uvula appears soft and papulous, as if composed of a clot of blood. The veins and arteries become distended, and the soft vascular net-work spread over the palate gives it the appearance of a well-injected tissue of blood-vessels.

The irritability of the surface is such as to cause frequent coughing, and even the least particle of mucus must be thrown up, as if it were some hard substance; blood is also sometimes discharged from the spongy surface of the soft palate and uvula, but without any permanent relief.

I would anxiously wish for some further elucidation of this subject, whether this obstinate affection has been observed by others, and if any remedy had succeeded in removing it; or whether it be supposed a disease *sui generis*, from its resisting all

Mr. Murray. Affection of the throat.



E. Mitchell Sculp.

Published, by A. Constable & Co. Edinburgh, April, 1816.

known remedies, or merely a *pseudo-syphilitic* or *mercurial complaint.*

It is certain that it has generally occurred to those who had used *mercury* for a real or supposed lues; but I have seen three cases where that medicine had never been used, nor any venereal affection even suspected; one of them was a married woman, who had three healthy children during five years that she suffered under it, and had submitted to every plan of cure that could be devised, by numbers of medical gentlemen to whom she had applied. Like all others in this disease, mercury, in any shape or form, was to her invariably injurious.

In the only case I have seen prove fatal, the uvula and soft palate sloughed away from time to time. Little aphthous crusts formed on the back part of the fauces, falling off successively, and succeeded by round black ulcers, which gradually penetrated deeper and deeper, destroying great part of the nose and internal ears. She could not swallow solid food in this stage of the complaint, her hair fell off, debility and swellings in various parts supervened, and death at length terminated her sufferings.

In any of the cases I have seen, the constitution exhibited no characteristic mark of a scrofulous diathesis.

I do not think it necessary to enlarge on this subject at present, nor to enumerate what local and constitutional remedies had been tried, but shall probably, in a short time, submit a few cases of it to your readers, in a detailed manner; and in the mean time, hope that more light may be thrown on this matter by some abler and more experienced practitioner.

Belfast, 7th November 1815.

VI.

Case of Artificial Pupil. By Mr Moore, Surgeon, Belfast.

Hugh Quin, a labouring man, aged about 48, applied to me in April last. When a boy, he lost the sight of the left eye by an accident. In September 1814 he struck the sound eye against the end of a stick, and ruptured the sclerotic coat above the cornea, to the extent of half an inch, in nearly a semicircular direction, with the concave part towards the cornea. A portion of the vitreous humour protruded, supported by its capsule, and the flap made by the wound, and formed a tumour about half the size of a common bean. The eye was very much inflamed; there was a considerable discharge of matter like pus and mucus mixed; and severe pain in the temples and forehead, occasionally shooting to the vertex. The pupil was closed in consequence of the continued inflammation, which had now lasted eight months, and the iris had that rugose appearance we often see in closed pupil, and was drawn upwards by its attachment to the ciliary ligament, which ligament was drawn upwards by the protrusion of part of the vitreous humour. He could just discern light from darkness, at the clear light of a window or door.

On examining the eye, the following indications obviously presented themselves: *1st*, To abate the inflammation in the eye, and relieve the pain in the forehead and temples. *2d*, To remove or lessen the size of the tumour, as the friction of the upper eye-lid on it caused a considerable degree of irritation. *3d*, To procure admission for light into the eye by an operation.

In order to fulfil the first, two grains of submurias hydrargyri were given at bed-time, and a drachm of pulv. jalap. comp. next morning. These were repeated twice a-week; and a solution of acetate of lead was very frequently applied to the eye by means of linen rags dipped in a large basinful of it. By continuing this plan a fortnight the inflammation was nearly removed, and the pain in the head and temples quite gone.

Then, wishing to remove the tumour, I punctured it with the cataract-needle, and squeezed out the greater part of its contents, which were of the consistence of jelly, and appeared to be the vitreous humour thickened. In a few days a little inflammation, that had been excited by pressing it, abated.

I then proceeded to the operation, in presence of Surgeon Macdonnell of this town, and assisted by Staff-Surgeon Latham. Having fixed the eye with a speculum, I pierced the cornea with the extracting knife, half a line from the sclerotica on the outside, and a little above the transverse diameter of the cornea, and continued the incision to its lower part, keeping at the same distance from the sclerotica. I then introduced a very small hook, and fixed it in the centre of the iris, carefully avoiding the lens; the iris being gently raised, the point of a fine pair of scissors was introduced behind the hook, and the raised part snipped off and brought out. There was a slight effusion of blood from the iris, which rendered the eye turbid. The antiphlogistic plan was continued, as above mentioned, and in about a week the effusion was absorbed, and the eye became clear. We then found the pupil in its proper place, and fully the natural size; such as it usually is in a moderate light, and quite circular, except the part near the external angle, towards which it was lengthened a very little, and the margin of that part not so smooth or well defined as the other part of the circumference. He could now discern colours, point out the different objects in a room, and the panes of a window, or the colour of people's clothes at the opposite side of the street. In a few days he went home to the country with a very useful degree of vision. It is now five months since the operation, and I have lately heard from him. He is able to follow his business as usual, and the sight of the eye is as good as before the accident, except that the pupil has not the power of contracting, and it is necessary to wear a shade over it in a strong light.

As this affection of the eye has not been much attended to, it may not be irrelevant to give a slight sketch of the different methods that have been practised for its relief, with a few remarks.

It appears that Cheselden was the first to perform the operation; and from his manner of doing it, he must only have considered that closure of the pupil which succeeds extraction or depression. He introduced a couching-needle, having a cutting edge only on one side, through the sclerotic, a line and a half from the cornea, and, pushing the needle through the iris near the external angle into the anterior chamber, and carrying it nearly as far as that side of the iris next the nose, he then turned the edge backwards, and withdrew it, so as to make a transverse section of the iris.

This operation has not succeeded in the hands of other surgeons; and it is evidently not adapted for a case of closed pupil where the lens is in its place, as it must be injured by introducing the needle into the posterior chamber. Besides, the incision of the iris is apt to unite again, and render the operation useless.

The method proposed by Janin, by making an incision the same as in extraction, and, with a fine pair of scissors, making a perpendicular division of that part of the iris next the nose, is better than Cheselden's, but I think is liable to two objections. The incision in the cornea is too large; one half the size or a little more is sufficient; and by carrying the incision farther than the lower part of the cornea, the flap is apt to be elevated by the lower eyelid, and prevented from adhering, and part of the iris is apt to protrude. The other is, cutting the iris perpendicularly on the part next the nose. In this way it will admit a portion of light, but the sight would be more extensive and better if it were in the proper axis of vision.

Scarpa has recommended to separate the iris from the ciliary ligament, by introducing a needle through the sclerotic, two lines from the cornea, and tearing the iris from the ciliary ligament, at the part next the nose.

He has practised this method in a few instances successfully; but that eminent surgeon only takes into consideration the case of closed pupil after extraction, or depression, or where the lens has been absorbed by solution. He informs us, that there is great pain attending it; and also that it was a month and sometimes more before the blood effused in the aqueous humour has been absorbed. He has a great objection to cut the cornea after extraction, or depression; thinking that it will excite great irritation. The pain and irritation, however, is much less in opening the cornea, and cutting the iris in its centre, than piercing the sclerotica and tearing the iris from the ciliary ligament. Besides, the pupil is not in its proper place, where we ought always to endeavour to make it; unless there is some particular objection, such as an opacity of the cornea; and in that case we are obliged to make it opposite to whatever part may be transparent.

The late Mr Gibson of Manchester punctured the cornea, so that part of the iris might protrude, and with a fine pair of scissors snipped off the protruded part, so as to form a pupil. This is a safe method, and is adapted for those cases where there is but part of the cornea clear, and the natural pupil sound, but obscured by the opacity. In puncturing, or making an incision in the cornea, it requires one of a considerable size to permit the iris to protrude; and when the pupil is made in that manner, it is behind the scar (or very nearly so) left by the incision, which may cause some obscurity in the sight; and I think it probable, that the iris and cornea may adhere, as we sometimes see after extraction.

Sir William Adams practises a method different from either of the foregoing. He introduces a small knife with one cutting edge only, and makes a transverse incision in the centre of the iris of a proper size for a pupil, and at the same time cuts up the lens, (as it must be wounded in making the pupil) in order that it may be dissolved in the aqueous humour, and absorbed. The patient may obtain a tolerable degree of sight no doubt; but it must be still imperfect, owing to the loss of the lens; and it may be sometimes necessary to break down the lens repeatedly before the solution is completed. Where I have seen it performed, there was a considerable degree of inflammation, and the cure was very tedious Probably we may not always be able to save the lens; but I am induced to believe, that most surgeons would attempt it, and that there is a reasonable prospect of success.

In performing the operation as described in the case related above, the only risk is, that of injuring the lens with the hook, when raising the iris to snip it with the scissors; but in the hands of a surgeon of tolerable steadiness, and accustomed to operate on the eye, there is very little danger. The hook I used is very fine, the curved part not being more than two lines, or two and a half in extent, and sufficiently curved to keep its hold until the piece was cut out. Raising the iris is of the greatest service, as it enables us to cut out a piece nearly circular; which makes a good pupil, and prevents it from adhering again, which it generally does, if there is only an incision made in it. The scissors used are somewhat concave, such as are used in cutting a piece of skin from the external part of the eyelid, in cases of inversion; and, I think, they make the pupil more circular than straight ones would.

From the foregoing, it appears that we may divide the cases that require the operation for artificial pupil into three species.

1st, Where the pupil has closed in consequence of the removal of the lens by an operation.

2d, Where the pupil has closed in consequence of inflammation from an accident, or some other cause, and where the lens is in its natural place.

3d, Where there is an opacity of the cornea before the natural pupil, that prevents vision, and there is some other part of the cornea clear.

In the first, either the operation practised by Scarpa, or the one described in the preceding case, may be adopted at the option of the surgeon. I have stated some reasons above for preferring the latter.

In the second, the operation used by Sir William Adams, or the one described in the foregoing case, may be adopted. I have also stated some reasons in favour of the last.

In the third, it is obvious we must make the pupil opposite whatever part of the cornea may be clear.

VII.

Case of Conversion of the Substance of the Heart, accompanied by the production of a Sac at the Mouth of the Aorta.

By THOMAS SPENS, M. D. Fellow of the Royal College of Physicians, Edinburgh, and one of the Physicians to the Royal Infirmary.

A LADY, æt. 41, returning from church on Sunday the 5th November 1815, fainted on the street. She could not be said to be in very good health, having lately had a severe illness, the principal symptoms of which were frequent and long continued attacks of acute pain in the lower part of the belly and back, extending down the thighs, with a bloody discharge both from the rectum and vagina, and incontinence of urine. The seat and nature of this disease were obscure, but she recovered, and was so well for months, as to be able to walk about and take an active share in the management of her children and family. The only symptom previous to this syncope was a degree of dyspnœa, lately felt on motion or exertion. She fainted two other times on Sunday evening, and had frequent vomiting.

November 6th.—She had almost constant nausea and frequent vomiting, and a feeling of faintness, and oppression, or anxiety about the breast, which was most distressing. Notwithstanding those feelings, however, the motions of expiration and inspiration were apparently going on quite regularly. Pulse 75.

7th.—Continued in the same state, but the pulse now varied from 24 to 30, regular but not feeble; respiration apparently regular.

8th.—Was quite easy from 7 A. M. till 9 P. M. but her pulse continued the same.

9th.—Pulse as before; great and constant uneasiness, but sometimes aggravated for a short time, with intermission of pulse. She complained of constant palpitation; but this could hardly, if at all, be felt by the hand. No nausea or vomiting; and she frequently took a little beef-tea or brandy and water, loathing every other kind of food or medicine.

10th.—Nearly in the same state as yesterday. Her bowels were kept open by laxative pills or injections.

11th.—These fits of aggravation of distress were attended with turning up of the eyes, clenching of the hands, cessation of pulse, and insensibility, continuing ten or twelve seconds. They were almost incessant from midnight to 4 A. M. She described her feelings, at the time of their accession, as those of going into a faint, and said she suffered very great uneasiness on the return of sensibility. Her pulse was felt repeatedly as low as *ten* in the course of last night; but early this forenoon the palpitation became excessive and constant; the beating of the heart and carotids so rapid, as hardly to be counted (I think about 200), and strong, while the pulse was scarcely to be felt at the wrist.

12th.—10 A. M. Palpitation has been constant, and of the same rapidity, attended with very great distress, and almost constant screaming, but no more convulsive fits; no pulse at the wrist; hands somewhat swelled, and at times of a darkish colour; also cold, as well as the feet, but all at present warm; voice strong; mind entire and firm, though quite aware of her danger. Forty drops of laudanum were given, and within an hour she became quiet, and remained so the whole day, though the palpitation continued undiminished. Thirty drops of laudanum were given at 10 P. M.

13th.—Lay quiet all night. About 8 A. M. being more uneasy, 30 drops of laudanum were given. 10 A. M.—Palpitation continues nearly as rapid; hands cold; feet warm; breathing quick; speaks seldom, and with difficulty; takes some drink frequently, and the glass in her own hand. Between 7 and 8 P. M., when a drink was offered her, she said, "Stop a little;" had a smart convulsion, and expired.

The body was inspected by Dr Gordon, and the following is his accurate statement of the appearances.

"The cavities of the chest and abdomen were examined.

"The lungs were healthy, both in their substance and on their surface. There was a slight effusion of a yellowish serum into each cavity of the pleura.

"The heart appeared a little larger than is usual, in proportion to the stature of the individual. A large portion of the middle of its anterior surface was covered with a loose flocculent matter, which adhered at one or two points to the pericardium. A large portion of the muscular coat of the right ventricle was converted into a firm whitish matter, like that which is found in scrofulous mesenteric glands. This conversion was confined to the anterior side of the ventricle, and to about an inch square of the septum, close to the orifice of the pulmonary artery. In the anterior side of the ventricle it did not extend quite to the apex, but occupied chiefly the parts next the tricuspid valve, and there the sides of the heart were thickened in consequence, fully a quarter of an inch. The tricuspid valve, however, as well as all the fleshy columns connected with it, were in a healthy state. In the septum of the ventricles the conversion did not penetrate to the left ventricle, but seemed to occupy only the half next the right. In consequence of the disease towards the orifice of the pulmonary artery, this opening was considerably diminished.

"The right auricle was a little larger than usual, and its fleshy columns were considerably thicker.

"The left ventricle presented a perfectly natural appearance, except in one circumstance: Close to the orifice of the aorta a little sac sprung from the surface of the ventricle, and projected into its arterial orifice, lying on the inferior semilunar valve. The sac looked as if composed of fibrin, and, when perforated, a greyish cream-looking matter issued out of it. Its connection to the surface of the ventricle was very firm.

"The left auricle was quite healthy, as well as the mitral valves. The semilunar valves, both of pulmonary artery and aorta, were in a natural state. There was about a table-spoonful of yellowish serum in the pericardium.

"The sides of the uterus were a little thicker than usual; but every thing else in the abdomen was healthy."

VIII.

The Substance of a Clinical Lecture on a Disease of the Valves of the Heart, producing Pulsation of the Jugular Veins. By GEORGE PEARSON, M. D. F. R. S. in a Letter to Dr DUNCAN, Professor of the Institutes of Medicine, &c.

"Hæc de pulsatione jugularium venarum, in præsentia habui quæ dicerem. Cujus signi, meique hujus examinis si quam vides utilitatem esse posse ad cordis morbos abditissimos internoscendos; vides simul, jure, an injuria adversus recentiores medicos scriptum sit; *exacta cognitio usûs valvularum cordis quid prodest medico curanti in morbis cordis pro cognitione morbi?*"—MORGAGNI, *Epist. Anat.* xviii. l. 11. Art. 12, p. 143.

ANNE ALLINGHAM, admitted into St George's Hospital, January 23, 1816, fifty-three years of age, but with a countenance of disease denoting much greater age. Had been married, and born six children. For many years of her life had been in laborious servitude. Fell ill suddenly four months previous to her admission, but could give no distinct or full account of her case; could only describe that she became "low, weak, sick;" in particular, never felt any topical pain, nor had any cough. The lower extremities were now œdematous; hence, she said, was not able to walk. The pulse at the wrist was 80 in a minute. It was suspected the patient might have brought on the debilitated and dropsical state by drinking spirits. Till further information could be obtained, by subsequent inquiries and observations, a mixture was prescribed of Infus. sennæ ℥iv. Tinct. aloes ℥ij. Tinct. zingiberis ʒvi. Syrupi bals. Tolut. ʒij. To take cochl. ij. majora cum cochl. ij. maj. aquæ fontis ter quotidie.

Also to have the limbs well rubbed with the linim. ammoniæ mitius, nocte maneque.

On the second examination, the neck being then without covering, an evident considerable pulsation, or more properly undulation in the course of the external jugular veins in the neck, attracted attention. At the same time, this undulatory motion did not correspond either to the pulse at the wrist, or of the temporal artery, or of the heart. In a recumbent posture for some hours, the pulse of the jugulars was 120 to 130 in each minute; at the wrist 60, and about the same of the heart, but fluttering and rather irregular. The respiration seemed to influence the pulsation in the jugulars. In a state of quiescence, whether in an erect posture, or recumbent on the back or sides, the breathing was not affected. No startings or sudden waking occurred in the night-time. The lips appeared rather livid. The appetite for meat increased, and full diet was desired;—wine was also allowed. No complaint but of being so weak as commonly to lie in bed.

On a third visit of observation, in six days from the admission, the phenomena, to my apprehension, indicated diseased structure of the cavities of the heart, to obstruct the passage of blood, so as to occasion it to be repelled from the right or superior heart into the venæ cavæ and jugulars. I ventured to declare this opinion to the gentlemen attending the physicians' practice. The general debility had now greatly increased. A much greater obstruction was felt to the passage of the blood through the heart; the pulsations of which were so indistinct that I could not number them;—the mode of action being every way irregular, intermitting, and fluttered. I was surprised to perceive no dyspnœa, nor hear any coughing so long as the patient was at rest, whether in a recumbent or erect posture. At the same time, the pulse at the wrists was become weaker and rather irregular, but not synchronous with either that of the heart or of the jugulars; the latter being double in frequency to that of the wrists. The patient was quite tranquil while reposing in a bed, but walking could not any longer be performed without the risk of fainting, attended by excessively accelerated pulsations at the wrists and jugulars, with very frequent, very irregular, and very feeble pulsations of the heart.

At this time the case became more clear, from the motion of the jugulars being found to extend down the right side of the thorax, to the right hypochondrium, at the margin of the liver, indistinctly; and then more distinctly in the abdomen, in the course of the vena cava inferior.

10*th day after admission.*—In addition to the former symptoms, the stomach was greatly affected by sickness pretty constantly; and sometimes with vomiting of apparently bile in the fluids rejected.

14th *day after admission.*—To all the former symptoms aggravated, a troublesome *cough* had supervened. In particular, few things were now retained in the stomach; the eyes too grew yellowish; the countenance sunk, elongated, and pasty.

In a few days further, there was expectoration of florid blood mixed with mucous matter; the difficulty of breathing was great; the cough frequent; the lips quite *blue;* the pulse at the wrist was no longer perceptible; the bowels became lax. On the 19th day of her residence in the hospital, the patient died in the morning without any struggle. The night before death, about eight ounces of florid frothy blood were brought up by coughing; the nose too became purple; the beating of the jugulars, I was informed by the nurse, never ceased, or even abated, to the time of dissolution; the breathing was at last not much affected, and there had been at no time orthopnœa, unless upon moving the body; no local pain, but much general uneasiness was manifested. She lay for some days on the left side, with the head raised up a little, but during the last day of life, the posture was changed to the right side.

I have given no detail of the prescriptions, as they were merely for urgent symptoms of the usual kind, and what are called cordial and gently stimulating remedies; but I was anxious to observe the symptoms in the progress of the disease. Dr, now Professor, Hewitt of Downing College, Dr Chambers, and Dr Sigmond, who attended the physicians' practice, constantly visited the patient, and taking notes daily, I have greatly profited by them, not only in confirmation of my own observations, but by the addition of symptoms which occurred in my absence, or escaped unnoticed.

Sectio Cadaveris.

The body was opened by my skilful pupil Mr Wharrie. My colleague Dr Young was present, feeling much interest on account of a similar case under his care, published in the fifth volume of the Transactions of the College of Physicians.

Thorax.—The *lungs* did not collapse; they appeared almost uniformly of a dark reddish colour, not unlike liver. *Watery fluid* between the lungs and costal pleura, perhaps half-a-pint in each cavity. In the *pericardium* about four ounces of a similar liquid. The *heart* was in its wonted position, but considerably larger and paler than usual, with much fat upon it. The right auricle was more distended than I ever saw on any former occasion, and the left was also distended. No thickening of the pleura membrane, nor adhesions were seen denoting inflammation; no disease of structure or texture could be perceived *externally* in any of the large blood-vessels of and near the heart.

The *lungs* being detached, appeared smaller, and felt comparatively dense, instead of their usual spongy feel, but they were *not at all hard.* They barely floated in water; for portions being immersed ascended very slowly. The condensation, or, more properly speaking, the liver-like consistence, was not partial, but uniform, and there was only rather greater firmness of the left than the right lung. Being cut into, the whole substance appeared greatly distended with dark-coloured blood, and perhaps there was effused blood into the cellular interstitial parts, or cellular membrane, between the air tubes and air cells. In the trachea no morbid appearances, but a little mucus tinged with blood in the bronchial tubes.

Heart.—The *auricles* and *ventricles* were all full of black partially coagulated blood; not less than twelve or fourteen ounces. The texture of the heart was not firm; it was soft and flaccid; the hardness was felt on handling it in any part, but the cavities being laid open, much diseased structure was found. The cavity of the *right auricle* was very much enlarged, as well as that of the *right ventricle.* Some of the carneæ columnæ attached to the tricuspidal valves were much *thickened* and *shortened,* by which the passage of blood into the pulmonary artery must have been considerably obstructed in the right heart. In the left heart an equal or still greater impediment was found from the *mitral valves* being partially cartilaginous, or at least thickened; and still more obstruction was produced from the same indurated state of the *semilunar valves of the aorta;* thus considerably straitening the passage from the left ventricle into the aorta, and occasioning accumulation in the left heart.

The interior of the external jugular veins, and vena cava superior, were examined, as well as the interior of the pulmonary artery and aorta, but no morbid appearance was seen.

Abdomen.—The *liver* was large and pale, but I did not consider any part of it to be in a morbid condition. The rest of the abdominal viscera were sound. In the cavity of the abdomen there were about three pints of watery liquid.

Wishing to afford further satisfaction before I read the clinical lecture on this disease, I desired Mr Wilson to examine the state of the above described heart. From this excelling anatomist I was most obligingly favoured with the following report, which, I apprehend, will remove every suspicion of inaccuracy.

" My Dear Sir,—I have examined the heart which you sent by my son. The passage into the pulmonary artery from the ventricle is much smaller than it ought to have been, and is rendered so by the unusual shortness and situation of some of the carneæ columnæ attached to the edge of the tricuspidal valves.

" The passage into the aorta from the left ventricle is not more than half of its natural size. This is partly owing to the carneæ columnæ attached to part of the mitral valves, but more particularly to a considerable thickening in the valves of the aorta, and in the part of the heart nearly surrounding their attachments. By reason of the narrowness of the passages into the two great arteries, the whole of the blood passing into the ventricles could not, in their systole, be pushed into the arteries. This would occasion a great accumulation in the auricles, and, I think, accounts sufficiently for the semblance of pulsation in the jugular veins.—I am," &c.

" James Wilson."

George Street, Hanover Square,
February 16, 1816.

Remarks.

In the present state of physic, although there are no means hitherto discovered of curing the disease above described, the history may be of practical utility in several ways. 1*st*, It serves for improvement in the physiology of that admirably constructed organ, the heart; 2*d*, It furnishes, perhaps, diagnostic characters to distinguish it from other different affections; 3*d*, It may serve, not only to avoid useless, or even hurtful treatment, but to indicate palliative remedies.

I conceive that a reasonable explanation may be given of the phenomena from our presumed knowledge of the functions of the different parts of the grand instrument of the circulation of the blood. The obvious effect of the morbid state of the valves of the right or superior heart must have been to obstruct the discharge of blood into the lungs; but this impediment alone might not probably have done more than occasion some uneasiness of the chest, and specially inability of muscular exertion in labour, or in walking rapidly, from dyspnœa, and perhaps syncope; and, after considerable time, there would be anasarca and dropsy of the cavities of the thorax and abdomen. But, in the instance under contemplation, considerably greater derangement must be produced by the diseased state of the mitral valves of the left ventricle, and the semilunar valves of the aorta. Hence the blood transmitted with such exertion (owing to the diseased state just mentioned of the right heart) through the lungs into the left, would be accummulated in the left heart. Of course, the disease of the valves, with its consequences, accumulation of blood in the auricles and ventricles, and distention and weakness of the muscular power of the heart increasing, congestion was produced in the lungs, to cause effusion of blood into the connecting cellular membrane between the bronchi and air cells, as well as into those air tubes, manifested by the hæmoptysis above twelve hours antecedent to death, and by the firm consistence and liver-like colour of the lungs observed on dissection. In such a condition of both the right and left heart, it was not to have been expected that the pulsations of this organ would correspond to those of the arteries at the wrists and other distant parts. That so great a quantity of black or *venous* blood should be found, not only in the pulmonary or right heart, but in the corporeal or left, instead of red or *arterial* blood, is, I apprehend, satisfactorily explicable, from the incapability, at least, of transmission of oxygen gas by the air cells.

The extraordinary phenomenon remains, however, still to be interpreted, namely, the palpable pulsation of the jugular veins and of the venæ cavæ. Except a somewhat similar case under Dr Young's care, I did not find that such an occurrence had been observed in the hospital for the last 30 years; and it was quite novel to such practitioners as I happened to have intercourse with at the time. Although there seems no difficulty to explain this pulsation from the repulsion of venous blood by the diseased state of the right and left heart into the vena cava, superior and inferior, we must infer from its rarity, that no common obstruction does occasion such a phenomenon; and, accordingly, indeed I believe it is not very common for so considerable and extensive an obstruction to exist at the same time.

I apprehend it is quite unnecessary to offer a more particular and further explanation. That watery liquid should be found in the cavities of the chest and abdomen, as well as in the cellular membrane of its extremities, is according to the usual course of analogous cases. But I own I do not conceive there is any probability that the comparatively inconsiderable hydrothorax in this instance could have any influence in producing the pulsation in the jugular veins, so ingeniously proposed by Dr Young in the Medical Transactions.

While I was engaged in writing the substance of this clinical lecture, I accidentally met with a reference to Morgagni's well known work, for some histories of the kind above written. Lib. ii. De Morbis Thoracis, art. 12. He asserts, that the pulsatory motion of the jugulars may be occasioned either by disease of the *right* auricle or *right* ventricle, which may be distinguished in the following manner: " Si forte quæris, qua liceat ratione internoscere, ab utro sit eorum cavorum; licere tunc, dicam, ubi paulo minus frequentibus ictibus jam micent tum arteriæ, tum jugulares venæ. Si enim obtuitu simul in his fixo, simul digitis arteriæ aut temporum aut carpi admotis, evidenter cernes, eodem temporis puncto venas illas sè attollere quo pulsare senties arteriam; a contractione illas micare, intelliges, *ventriculi dexteri*: sin contra, non ab hujus, sed a contractione *auriculæ annexæ*. Nosti enim, arterias tunc pulsare, non cum auriculæ contrahuntur, sed cum ventriculi, et vicissim tunc subsidere non cum ventriculi sed cum auriculæ contrahuntur. Itaque subsidentibus arteriis si venæ attolluntur jugulares; harum pulsatio a dextero, qui tunc otiatur, ventriculo esse non potest: contra autem si arteriæ, et venæ illæ simul pulsant: necesse est, venarum pulsatio non ab otiante auricula, sed a ventriculo sit tunc agente, et sursum impulsis vehementer valvulis, si hæ quidem, orificium claudant, venarum sanguinem succutiente aut sui portionem sanguinis in venas repellente, si valvulis orificium non exacte, ut natura instituit, occludatur." Juster observers may determine whether or not these distinctions really ascertain the seat of the disease. While I am writing upon this subject, it may be useful to mention, that Morgagni considers the foundation of the dogma of Lancisi, *that pulsation of the jugular veins is a pathognomonic symptom of dilatation of the right ventricle*; but from autopsia concludes: " Signum ab Lancisio propositum sæpius quidem indicare ventriculi dextri dilatationem; *interdum vero non hanc indicare*, sed vitium tamen semper aliquod, cujus aut sedes in cavis dexteris cordis sit, aut effectus ad hæc attineat sic ut circumitio sanguinis per dexteram cordis partem secundum naturam non perficiatur.."—Morgagni de Sedibus et Causis Morborum, Epistol. xviii. lib. 11. art. 10.

IX.

History of a Disease from Thickened and Cartilaginous Valves of the left Ventricle, and of the semilunar Valves of the Aorta.

By GEORGE PEARSON, M. D. F. R. S. senior Physician to St George's Hospital, &c. In a Letter to Andrew Duncan, M. D. Professor of the Institutes of Medicine, &c.

THIS history will afford a confirmation of the evidence of facts and the reasoning on the disease of Anne Allingham, described in my former letter.

JOHN HERBOTT, 19 years of age, a cabinet-maker; received into the hospital January 23d last. Had not enjoyed good health for two preceding years, being troubled at certain times with *dyspnœa*, in different degrees, yet slightly, while performing his work, or when walking at a quick pace; also having had lately, pretty constantly, an uneasy sensation extending from the region of the heart across the chest to the right side. Since May last these complaints have been so distressing, that he has been unable to execute the work of his occupation. There is now general debility, with a cachectic countenance; no apparent difficulty of breathing in any position while the body is at rest, but upon walking across the room, there came on dyspnœa, and strong accelerated pulsations of the heart. On walking up stairs especially affected, so as to be obliged to stop for breath, as he felt as if he should, on proceeding, fall. The easiest recumbent position was on the back; scarcely uneasy sensations when lying on the *left* side, but very uneasy on the right; not any more ease from the head and trunk *raised in bed* than in an even posture. On repose, the pulse at the wrist and the heart were about 60 to 65, and synchronous; thirsty; tongue rather foul and brown. On the supposition that there was an inflammatory state, or at least congestion of blood in the heart or lungs, the prescription was as follows:

Detrahantur sanguinis unciæ decem.
Emplastrum lyttæ sterno applicetur.
Sumat calomelanos grana decem.
Alterno mane, per duas vel tres vices diebus intermediis capiat magnesiæ sulphatis drachmas quatuor.
Omni nocte dormituro sumat pulveris ipecacuanhæ composit. grana decem.

25th.—*Second visit.* The former uneasiness of the chest was relieved on blood-letting, and breathed with less difficulty on walking; blood not buffy; the uneasiness is now felt down the sternum; in other respects no amendment, and additional symptoms have appeared; appears very drowsy, which it was said was not a new symptom, and indisposed to get out of bed coughed up some mucous matter tinged with blood; there was no anasarca of the lower extremities; very costive, not being able to retain in the stomach the sulphas magnesiæ; the skin cool; the tongue clean; thirst continues. The pulse at the wrist and heart, after repose in a recumbent posture, were 60; on getting up to walk across the chamber, I found the heart beat 145 during the first minute, and the artery at the wrist 140 in the second minute. The pulse of both parts, on lying in bed, quickly decreased to the former rate; no appetite for food. At this examination four or five young physicians assisted, of whose excellent abilities I have many proofs, who almost daily took notes at the bed-side of the patient. I own I was not able now to say more than that there was probably some organic disease of the heart, or of the large vessels near it. The question *quis morbus?* was proposed to each, but one only ventured to conjecture the disease to be water in the chest; *ignoro* was the answer of all the others.

Pilulæ extracti colocynth. comp. iii. quarta quaque horâ donec solvatur alvus.

Intermittatur pulvis ipecacuanhæ comp.

27th.—*Third visit.* Symptoms as before, but aggravated; unable to be in an erect posture on account of vertigo supervening; wished to remain in bed, lying generally on the back, but also on the *left* side, and never on the *right*, on account of the great uneasiness of the whole chest in that posture; had been often sick at the stomach, frequently retching, and sometimes vomiting. From this time till death there were spitting and vomiting of mucous fluid, with blood, which appeared this day, but hitherto moderately. The lips began to appear blue, and the countenance bloated. Mr Hamerton, the judicious apothecary, from time to time administered several appropriate palliative medicines.

28th.—*Fourth Visit.* Very great dyspnœa having come on, with symptoms manifesting congestion of blood in the lungs, *namely*, frequent discharge of blood by coughing and vomiting, livid countenance as well as lips; the pulse becoming very quick; the general uneasiness of the chest occasioning much inquietude, Mr Hamerton took away ten ounces of blood. It coagulated not firmly, and without any buffy coat. The patient said he felt as if something had burst within his chest. Threw up two large tea-cupfuls at a time of red blood, frequently during the day, unmixed with other matter.

31st.—*Fifth Visit.* The last two days and two nights, a great quantity of blood had been coughed up. The bystanders observed, that they did not conceive so much was contained in the human body, or, to use their own words, " they wondered whence it all came." It was now *black*, but heretofore *red.* The livid lips and countenance still subsisted. The pulse grew extremely quick and feeble. Complained of pain of the sternum. Manifested great inquietude, but was too feeble to make great exertions, and the breathing not at all relieved by being raised in bed, or became more difficult by being placed with the head low. At last turned and lay all day on the right side; was often sick at the stomach, but little else came up but blood. Became more and more feeble; yet retained his senses. On the evening of the 30th, the powers of life seemed nearly exhausted. Very offensive blood was continually thrown up, and finally flowed from the mouth, being apparently too weak to cough or vomit. Very early in the following morning died without a struggle.

Sectio Cadaveris.—I was not able to be present, but the heart and lungs were reserved for my examination. My friend Mr Wharrie opened the body, and I could depend upon his report alone, if it had not been confirmed by the evidence of a great number of pupils in the dissecting-room.

The *lungs* did not collapse on admitting air into the chest. The right lung adhered firmly to the pleura costalis, but no adhesion of the left lung.

The *trachea* and *bronchial* tubes contained mucus, and mixed with a little blood. The mucous membrane appeared red from vascularity. On the surface of the lungs were seen many broad red irregular-figured spots, like ecchymoses. No thickening of the pleura. The consistence of the lungs was firm, and more like that of the liver or spleen than the usual spongy texture. Being cut into, nothing but congestion was seen; however, there was still air enough to make pieces thrown into water rise to the top, though slowly, after sinking.

The heart.—In the *pericardium* about one quarter of a pint of liquid.

The *heart* was larger considerably than usual, but that was from distention of all the cavities with black blood. There was nothing morbid but enlargement of the ventricle of the right heart.

The *left ventricle* was much dilated. The *mitral valves* were in a cartilaginous and partially ossified state, narrowing the passage to one half the width from the auricle.

The *semilunar valves* were in a still more diseased state from thickening and ossification.

The large blood vessels of and near the heart were in a sound state.

No morbid appearances of the viscera of the abdomen.

Remarks.

The light afforded by the dissection, I think, may enable us to give a not unsatisfactory *rationale* of the phenomena in the case under inquiry; and perhaps this history may serve to assist in distinguishing a similar disease in future, and, of course, direct more efficacious practice.

The diseased state described of the mitral valves must impede the due action of the heart, in transmitting the blood from the left auricle into the ventricle, and from the ventricle into the aorta. A still greater impediment to this transit must be the disease of the semilunar valves of the aorta. In such a state of the heart, while the body is at rest, the circulation may continue for many months without any symptoms in the pulsation of the heart and arteries, or in the respiration, as in the present instance; but, on bodily exertion, as in walking, running, raising heavy substances, &c. the left heart must be unable to produce the regular systoles required for the transmission of blood through the arterial system. Therefore more frequent actions are excited to compensate for less frequent healthy actions, when, by exercise, the heart is required to transmit an increased quantity of blood. If the blood cannot duly flow through the left heart, it must, in this case, be accumulated in it, and also in the lungs. Hence the dyspnœa. The disease of the valves increasing at length, there is impediment to the transmission of blood even in a state of repose; which impediment is augmented by the muscular power of the heart being weakened by perpetual stimulation of accumulated blood. In course, the blood accumulates, and distends the auricle as well as ventricle, and the pulmonary veins. Hence the hæmorrhage in the lungs into both the interstitial parts of the cellular membrane, and into the air tubes, occasioning hæmoptoe in this instance, and a dense liver-like state of the lungs, as occasioned also in the case of Allingham, and for the same reason, viz. the diseased state of the valves of the left heart occasioning accumulation of blood in it, and also in the lungs. Finally, the heart becomes unable to transmit blood to support life, and the lungs cannot transmit oxygen duly. Death then must be the consequence. The whole mischief in this instance was produced by the disease of the left heart only; but, in the former, by a similar morbid state of the *right*, as well as of the left. Consequently there was a double regurgitation of blood, viz. into the pulmonary veins, and into the venæ cavæ, manifested by the pulsations in the jugulars.

It is commonly believed that ossifications are very rare in such young persons as Herbott; but I apprehend they are more frequent occurrences than has been represented.

The distinguishing characters of this morbid state seem to be inordinate action of the heart and dyspnœa, upon bodily exertion, subsiding speedily on repose; peculiar distressing sensation of the chest pretty constantly present; lividity of the lips and face; perhaps nausea, and vomiting, and vertigo. These, in concurrence, and the absence of symptoms of hydrothorax, and of known pulmonary diseases, may assist in preventing this affection from being confounded with aneurisms, and other different organic maladies.

X.

Case of Cynanche Laryngæa. By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

MRS M——, aged about 45, of a spare habit and sallow complexion, began to be affected with soreness of her throat and slight difficulty in swallowing, on Saturday 24th February 1816. For several days she paid little attention to the complaint; but the symptoms having become more severe, I was desired to visit her on Tuesday the 27th. I found her complaining of great uneasiness in the throat, which she said felt as if it was closed, and great difficulty in swallowing. On examining the throat, nothing was to be seen but a slight and general redness, without the least swelling of any of the parts. The pulse was natural.

It immediately occurred to me, that the uneasiness she complained of was greater than was accounted for by the appearances in the fauces; but as the pulse was soft, and of the natural frequency, and no other symptom existed that could excite alarm, I merely recommended a blister and a purgative. This was about one o'clock, and she continued without any change in the symptoms till between ten and eleven o'clock at night, when the difficulty in swallowing rather increased, and she began to feel her breathing a little difficult. I was not informed of the occurrence of this symptom, till, in consequence of the rapid increase of it, I was sent for about three o'clock in the morning of the 28th. I found her affected with severe difficulty in breathing, most remarkable during inspiration, which was performed with a great effort, and a sound resembling that in croup, conveying the impression of great constriction of the larynx. She had a frequent, short, irritating cough, with which she brought up small quantities of a thick, viscid, transparent, yellowish fluid, evidently the production of an inflamed surface. Deglutition had now become nearly impracticable, the attempt occasioning violent pain, severe cough, efforts to vomit, and increase of the dyspnœa. Her voice was extremely hoarse—the pulse about 96, and rather small. The pain was referred to a spot a little below the root of the tongue, from which she said it extended along both sides of the throat:—"her throat," she said, "felt as if it was closed." She could open her mouth freely; and nothing could be seen, by the most careful examination of the fauces, but a slight and superficial redness, as on the preceding day.

I immediately bled her to at least twenty ounces. A large blister was applied to the neck and breast, the one formerly applied not having taken effect, and a brisk purgative was directed to be given as soon as she should be able to swallow it.

It was now about four o'clock in the morning of the 28th. At eight o'clock, I found that she had been considerably relieved, both in breathing and swallowing, after the bleeding, but that these symptoms had again become more severe. The pulse was 96, and small. I bled her again to fourteen ounces. Early in the forenoon eleven leeches were applied to the neck, and another blister along the sternum. The blood from both bleedings shewed a strong inflammatory crust. The purgative operated strongly.

By these means the breathing was very much relieved, but deglutition continued nearly as difficult as ever, the attempt exciting cough and efforts to vomit, with severe pain. The appearance of the fauces was now perfectly healthy, the slight redness formerly observed having disappeared. Finding her in this state in the evening, with the pulse 96, I bled her again to eleven ounces, making forty-five ounces in the course of the day, besides what was taken by the leeches.

29th.—She had passed a quiet night, and her breathing was quite easy. Had some cough, with which she brought up a little matter, which was opaque and friable. Deglutition was still very difficult, exciting cough and efforts to vomit.

Bleeding with leeches was repeated, and a purgative.

March 1st.—Deglutition much improved. Breathing quite easy. Pulse 96.

4th.—Deglutition has improved gradually.

8th.—Free from complaint. Voice still rather hoarse.

Many years ago I saw a fatal case of this rare and formidable disease, but I cannot find my notes of it. It occurred in a strong man about 50 years of age, and was marked at its commencement by severe pain of the throat and great difficulty of swallowing; while nothing was to be seen in the fauces but a superficial redness, without swelling. After these symptoms had continued about two days, he was attacked with dyspnœa, which, increasing rapidly in violence, proved fatal in the course of a day. On dissection, the inner membrane of the larynx was found much inflamed and thickened; but the principal disease seemed to have been in the epiglottis. It was much inflamed and enlarged in all its dimensions, having completely lost its natural appearance and elasticity, and become a thick fleshy mass, with some appearance of ulceration on the surface.

THE INQUIRER. No. XXVI.

Medical Fragments.

A CASE of stuprum, attended with some peculiar circumstances, was tried at the last Northumberland Assizes. The prosecutrix was a married woman, apparently between thirty and forty years of age. The defendants were two brothers, by one of whom the act was alleged to have been perpetrated, while the other held forcibly down the husband at not more than two yards distance from the spot where his wife was said to have been violated. The trial occupied five or six hours, and excited a good deal of interest. The jury brought in a verdict of *Not Guilty*, seemingly in consequence of some strong evidence brought forward on behalf of the prisoners, which went to invalidate the testimony of the prosecutrix and her husband. Another man was included in the indictment as an acccessory, but the charge could not be substantiated.

The woman swore positively to the penetration of her body by the intrusio penis. But she could not swear to the fact of the emissio seminalis. The cause she assigned, was the agitation and syncope which supervened during the struggle. She perfectly comprehended the import of the questions put to her on this subject, and declared explicitly, that she had, on every previous coition with her husband, been sensible of the act of emission. Nor could she say that she was aware of any unusual humidity of the parts, immediately after the commission of the crime. This she ascribed to her having tumbled or waded through some water at the bottom of the dean where the assault took place. On both these points, the learned judge, Baron Richards, appeared to lay very great stress, both during the examination of the woman, and in his charge to the jury. The evidence of the husband, in addition to some of the facts sworn to by his wife, went to prove, that the ravisher remained in a situation on the body of the woman, sufficiently long to enable him to complete his purpose. There were many other minute circumstances detailed; but as they turned more on the legal than on the medical history of the cause, it is unnecessary to enumerate them. The evidence for the prosecution failed in credibility, in consequence of the counsel for the prisoners, besides various other particulars in favour of their clients, having been able to adduce evidence, which the judge and jury deemed satisfactory, of both man and wife having been at the time in a state of intoxication sufficient to destroy the validity of all that they had sworn to.

The judge, in summing up the evidence, laid it down, (if the present writer be not greatly mistaken) that the fact of emission must be sworn to or proved, in order to constitute the crime of rape, according to the law of England. But, at the same time, it was for the jury to deliberate, whether, on a careful consideration of all the other collateral circumstances of the case, they had reason to be satisfied in their own minds, that this part of the crime, as well as every other part, had been actually committed. These are nice and difficult points for a jury to decide on. They are no less important for a medical practitioner to reflect upon, as he may be frequently called to give his evidence or his opinion in cases somewhat analogous, before a court of judicature. And here one cannot help expressing a wish, that forensic medicine were made a more necessary branch of study than it is generally held to be. A practitioner may acquit himself respectably enough, as far as regards the treatment of a wound, or of a disease produced by wilful external violence; yet he may make but a disreputable figure in expressing a common opinion, when cross-examined by counsel, learned in the law, if he have not made his mind familiar with those delicate points on which he is called upon to decide, when on his decision probably hinges the life or death of his fellow-creatures. It is not in detecting the more obvious forms of disease, or in prescribing the more common formulæ of drugs, that all, or even the chief part of the duty of an accomplished medical character consists. He must be prepared for every situation. The mere commonplace routine of practice is by far the least difficult part of the profession, and in importance bears no comparison to the perplexities which one has sometimes to encounter, when in presence of a tribunal assembled to deliberate on the fate of a culprit whose conviction involves in it the loss of reputation or of life. It is on trying occasions like these, that one man's superiority over another comes to be strikingly displayed. It is then the mental resources and energies develope themselves, and that one practitioner stands forth the man of laborious study, accurate information, cool reflection, and profound penetration, while another exhibits an example of ignorance, hesitation, and imbecility. But, to return to the case before us: It appears, that, by the law of England, the fact of the emission is essential to the completion of the crime of ravishment. The necessity of this *sine qua non*, in respect to violated virgins, may be questioned. But this is not the place to enter upon such disquisitions. It is possible, and even probable enough, that in the case of modest women, who have never experienced the embraces of the male, such may be their ignorance, or such may be the state of agitation, or faintness and insensibility, induced by the violence and terror of the brutal assault, that it shall be difficult, if not impracticable, for a female so situated, to know of, or to speak to the fact of the emission having positively taken place. Notwithstanding this, the act of defilement may have been accomplished in all its parts.

With respect to married women, or women accustomed to the sexual congress, the necessity of making oath to, or of proving the fact of emission, appears to be a provision fraught with wisdom and justice. The weaker sex must, it is true, be protected; but men have also a right to be defended against the nefarious arts of infamous women, who, for the sake of extorting money, or gratifying malice, might, without some powerful check, swear away the lives of whom they please.

It is not very unreasonable to infer, that, if a woman be so overpowered with terror or syncope, that she had no perception or recollection of that which constitutes the very essence and climax of feeling, of that peculiar sensation with which she acknowledged herself to be perfectly familiar at all other times of her having sexual intercourse, her declaration can hardly be entitled to much credit with regard to those other parts of the act of coition, in which a less degree of poignancy of sensation is supposed to be requisite. Hence it follows that the evidence of such a person as to the penetration of her body by the membrum virile, is necessarily rendered defective. If she cannot swear to the orgasm, which is the highest point of sensation, her sensibility must be so obtuse in general, or the syncope produced must be so complete, as to deprive her of all power of determining whether the entrance sworn to was the entrance of the male organ into the vagina, or merely the sensation caused by forcible handling of the parts, or the introduction of one or more fingers within the labia.

The other point to which the acute and discriminating judge particularly adverted during the examination, was the fact of no moisture, or any thing unusual having been felt by the woman immediately after she had been released from the powerful grasp of the ravisher. This is a circumstance worthy of the most serious attention, for it will apply to the case of any woman, virtuous or immodest, experienced or inexperienced. It is extremely difficult to believe, that a perfect coitus could have been effected, (and especially that part so essential to it, emission of semen), without the female being sensible, immediately after, of some difference in the state of moisture of those parts of her body concerned in the act. And even supposing the introduction of the penis to have taken place (which is ravishment in fact, though not in law,) and the emission not to have followed, still that very act, if it really was accomplished, ought to have produced some effect on the female parts, to have caused a preternatural discharge of their lubricating liquor, or at least to have occasioned some condition or feeling of parts, which had not been perceived before. On this point, however, the woman was positive in her declaration, that nothing uncommon had been felt by her. The explanation she attempted to give of the absence of such a feeling, is hardly admissible. To some, these observations may carry the appearance of unnecessary refinement and minuteness; but it should be remembered, that, in a case of this kind, so interesting in every point of view to society, there is no circumstance, however apparently trifling, that should not be deliberately weighed, and carefully debated, by every argument that ingenuity can suggest.

The facts for establishing a complete system of medical jurisprudence are perhaps yet too limited. But it were much to be desired, that some competent person would undertake the task of publishing a concise treatise on so important a subject, both for the benefit of the public in general, and for the instruction of medical practitioners in particular.

August 1815. X. Y.

PART II.

CRITICAL ANALYSIS.

I.

Observations on those Diseases of Females which are attended by Discharges; illustrated by Copperplates of the Diseases, &c. Part I. Mucous Discharges. By CHARLES MANSFIELD CLARKE, Member of the Royal College of Surgeons; Surgeon to the Queen's Lying-in-Hospital; and Lecturer on Midwifery in London. Royal 8vo. London, 1814. Longman and Co.

NOTWITHSTANDING the attractive appearance of this volume, its large paper, beautiful type, and numerous engravings, it has somehow escaped our attention too long. The subject, however, is not proportionately attractive; and our critical ardour may possibly have been damped by the prospect of so huge a volume, which promised us only an acquaintance with the "mucous discharges" of the vagina. On turning to the introduction, however, we find that the object of this publication is much more extensive. "To give a history of the female organs of generation," the author says,

> —"To describe with accuracy their symptoms, to shew by means of engravings the alteration of structure which the parts undergo, and thereby to familiarize the mind to them, so that when the diseases are met with, they may be known and distinguished, and to point out the mode of treating them—is the intention of this work." p. 5.

It is not material, perhaps, by what common link these various maladies are brought together, nor very important whether the arrangement is made upon firm nosological ground; otherwise so varying a symptom as a discharge from a morbid surface appears to be an imperfect source of discrimination and nosological arrangement. And hence, indeed, the table of contents of this first part or volume, comprises a number of diseases, which have scarcely any common circumstance of approximation; for it includes disorders of the bladder and rectum, as well as those of the uterus and vagina. Hæmorrhoids and ascarides, therefore, stand between inversion of the uterus, and cancer of the same organ. This, however, is a mere question of arrangement, and does not materially affect the value of a practical work, where there is much information and accuracy in the detail.

The first chapter describes the natural secretions that take place from the uterus, vagina, lacunæ of the os externum, and the mucous membrane of the urethra. Among the first are the catamenia; the mucus of the lining membrane of the uterus, and Fallopian tubes; and the viscid secretion from the glands in the cervix, chiefly produced after impregnation. The second is the mucous discharge from the rugous membrane of the vagina, varying with the age, and health, and the various degrees of employment, which is given to that organ.

In the second chapter, Mr Clarke treats of the *morbid* discharges from the vagina, (which have been variously named by writers,) under the title of "Profluvium vaginale." After quoting the descriptions of Sydenham, Mead, Cullen, Denman, Heberden, La Motte, and Hamilton, and objecting to the names of fluor muliebris, fluor albus, leucorrhœa, sexual weakness, whites, &c. which have been appropriated to this "vaginal discharge," as he prefers to call it, he informs us that it is merely symptomatic, and should not be treated as a specific disease, and defines or describes it as follows; "It is a discharge of a fluid flowing from the vagina, varying in its consistence, quantity, and colour; either produced by weakness of the constitution, or by a change in the structure, position, or action of the neighbouring parts, such change being the effect of natural or morbid causes."—The nature of the cause, therefore, will determine the choice of the treatment.

> "If the discharge is the effect of weakness, and if by its continuance the original weakness is increased, tonics will be required. If it depends upon some tumour in the vagina, the removal or support of this will also remove the discharge. If it arises from inflammatory action, this must be removed before any endeavour to restrain it is employed; for as the discharge during its continuance lessens the violence of the disease which produced it, it should not be checked till such inflammatory action is diminished. Nothing can be more inju-

rious under such circumstances, than the exhibition of tonics and stimulants, as cantharides, turpentine, and steel." p. 32.

The last observation is doubtless correct; but this seems to be rather a left-handed explanation of the injury committed. We are told that we *should* not check an effect of inflammation, while the inflammation continues; which, in fact, is really impracticable. Whereas the manifest injury of these stimulants, is, that they do not restrain, but aggravate both the cause and effect; or if they restrain the discharge, it is only by aggravating the inflammation to that high degree, at which the secretions are suspended. We doubt whether "*in many cases* it is injurious to restrain the discharge from the parts," by properly removing the cause, "without substituting some other secretion for it," for we believe, that a little attention to diet and regimen will prevent most of these anticipated evils, even where the anticipation is not altogether groundless, which it commonly is.

The author next remarks, that there are three varieties of discharges which occur in different diseases of the female organs, but which do not occur in any one patient at the same time; these are the *mucous*, *purulent*, and *watery* discharges. To these he afterwards adds the *sanguineous*; and he subdivides the mucous discharges into *transparent* and *white* mucous discharges, thus making five distinct heads. He admits, however,

> —"that there are mixed cases, where the discharges vary from their usual appearance; moreover, a discharge of one kind will mark one stage of a disease, and a discharge of another kind a different stage. As happens in other diseases of the body, one disease is also blended with another, and the discrimination of these modifications and irregularities, constitutes no small part of the skill of the practitioner." p. 33.

But we feel a little inclined to be sceptical respecting the importance assigned to this discrimination of mixtures of mucus with pus, and serum, and white mucus with transparent mucus; especially since we so well know the changes that take place in the discharges from other mucous membranes, from water to mucus, and mucus to pus, and how difficult it often is to say, what is mucus and what is pus; as for example, in a common coryza, or catarrh. As this volume contains only the two *mucous* classes of disease, the author principally defines these substances.

> "By *transparent mucous discharge* is meant that which is gelatinous, nearly transparent, and capable of being coagulated.—The *white* mucous discharge is opake, of a perfectly white colour; and it resembles, in consistence, a mixture of starch and water made with-

out heat; or thin cream.—This discharge is easily washed from the finger after an examination; and it is capable of being diffused through water, rendering it turbid. A morbid state of the glands in the cervix of the uterus probably gives rise to this discharge, &c.' p. 35.

Before the author commences his account of the diseases accompanied by mucous discharges, he gives, in the 3d and 4th chapters, some "general observations on sexual diseases, and on the necessity and mode of making an examination *per vaginam*," and "on sympathies." The principal object of the former of these chapters is to urge the necessity of resorting to that examination, as affording, in the author's opinion, the only means of diagnostic in these diseases. "The existence of these diseases and their kind *can only be known* by an examination *per vaginam*." We hope and trust that this is not true to the letter; otherwise not only ourselves, but almost all our tribe, in all ages and countries, must have been, and are still, committing the sin of ignorance and malpractice in all these maladies, and no prescription can be right, but by accident. We suspect, indeed, that we should be very seldom consulted on these complaints, interesting as they are to the patients, if such was to be the discipline that every delicate woman should be required to submit to; and that the practice in these cases would at length be left in the hands of old women, or of those members of the profession who approximate nearest to that character. Surely the nature of any discharge may be equally well ascertained, without collecting it upon the finger, and then transferring it to a napkin, according to the directions here given. It is principally regarding the nature of tumours that any satisfactory information can be thus obtained. The analogies advanced in support of making this practice general, are not quite relevant. "Is it usual to prescribe for a sore throat, without looking at the fauces?" Certainly not; but what information respecting the nature of an ulceration would be gained, in the dark, by poking your finger into the patient's throat? Yet in many cases of diseased uterus, surely the nature of the discharge, with the progress and other symptoms, afford all the information for practical purposes that can be procured. We think, therefore, that both delicacy and practical propriety conspire to limit such examinations to cases, in which all the other sources of information have left the practitioner in a state of uncertainty, or in which the anxiety of the patient may induce her to determine a question of doubt by that means.

There is nothing worthy of remark in the chapter on sympathies; and we come, in Chap. V. to the description of "certain diseases attended by a mucous discharge from the vagina;"

the first four of which consist of the displacement of parts, and are the procidentia or prolapsus of the uterus, bladder, or vagina, and inversion of the uterus. The account of the procidentia uteri, its progress, symptoms, and causes, which occupies Chap. V., is exceedingly full and perspicuous. The description of the natural position of the uterus and its various degrees of displacement, with the means of ascertaining them, is obviously from the pen of an accurate observer, very familiar with the healthy and morbid positions of that important organ. One observation might not immediately occur to the practitioner, which is of importance if it be deemed necessary to introduce the catheter while the prolapsus remains; viz. that the bladder, being dragged down with the prolapsed uterus, instead of being contained in the pelvis, falls down into and forms a part of the external tumour, dragging with it the meatus urinarius; "so that in order to introduce a catheter into the bladder, the point of the instrument must be turned towards the knees of the woman; for, being placed in the usual manner in which that instrument is introduced, it will enter the passage, but cannot be made to pass into the bladder in that direction," p. 64. This is rendered very clear by the engraving in Plate III.

Ample and judicious directions are detailed in Chapter VI. and VII., in regard to the "Treatment of Procidentia Uteri," the indications of cure being to increase the strength of the parts which are weak, and to afford a support to the tumour, the descent of which produces the symptoms. The author premises, however, that if a woman having this disease should again become pregnant, and will consent, after her labour, to a confinement for some weeks in a horizontal posture, the parts may regain their tone, so as to render any artificial assistance unnecessary. Cold and astringent applications are chiefly to be relied on for restoring the tone of the relaxed parts; and Mr Clarke recommends cold water to be applied to the pudenda, abdomen, and back, with a sponge, three or four times a-day, and to be thrown into the vagina by means of a syringe. This plan, with the horizontal position, will remove the incipient symptoms of prolapsus uteri. Among the astringent applications, he prefers alum to the metallic astringents, which are too irritating if used sufficiently strong; but speaks with some praise of the astringent powers of decoctions of galls and oak-bark. At the same time the stomach is to be invigorated by bitters, and regularity of bowels to be insured by rhubarb or senna, with some aromatic; and the cold-bath may be resorted to with advantage, where no other circumstance contraindicates its use. Much importance is ascribed to the constant resort to a bed or sofa, for the sake of the horizontal posture, and the use of a mattrass is preferred to that of a soft bed.

Where a complete procidentia has taken place, however, mechanical support, by means of a pessary, is commonly resorted to; and Chapter VII., which treats "of the mode of supporting the uterus," is in fact an essay on the shape, size, and proper materials of pessaries, and on the mode of introducing them. These observations are very clear and judicious, and may be studied with advantage by those who are in need of advice upon this subject. The author properly discards cork, wax, sponge, and other substances, and employs only box-wood, as combining lightness, with firmness and closeness of texture; and he distinctly demonstrates the peculiar advantages of particular forms and sizes, under obvious changes of circumstances, preferring the oval generally to the circular, and limiting the globular to cases in which the perinæum has been lacerated, and to those in which the prolapsus has been complete, and reduced. Upon the caution necessary to determine the propriety of attempting reduction, the author has stated some good practical observations.

In Chapter VIII. the characteristic symptoms of procidentia vesicæ are very clearly stated, as the means of distinguishing this from prolapsus of the uterus itself, and the mode of relief is pointed out. The tumour, in this case, necessarily varies with the distention or emptying of the bladder, though this is never completely effected. There is also an absence of those symptoms of deranged stomach which occur in the other case; and in the projecting tumour, at the lower part, there is of course no opening, which the os uteri occasions in the former. But the author remarks, that the peculiar symptom, which distinguishes this prolapsus from that of the uterus, is a pain referred to the navel, which is greatest, when the bladder contains the largest quantity of urine; and which he ascribes to the attachment of the superior ligament of the bladder to that part. Procidentia vesicæ is best remedied, the author affirms, by hollow pessaries of a globular or egg-shape. All straining should be avoided, the bowels kept open, and the urine frequently evacuated.

The disease which the author calls procidentia vaginæ, is probably very uncommon, and not very manageable when it occurs. It appears, indeed, to be the result rather of over-distended and morbidly-relaxed rectum, than a disorder of the vaginæ itself, and it is chiefly to the restoration of the gut, that the author directs his remedies. The effect is a corresponding "relaxation of the posterior part of the vagina, so that this part is lower than the natural defined edge of the perinæum,"

p. 134. A globular pessary supports both the relaxed vagina and the pouchy rectum, and lotions of solutions of alum in decoction of oak-bark, with cold, &c. are recommended.

Inversion of the uterus, when the fundus comes through the os, is very seldom met with in the present improved state of midwifery; it is, however, occasionally met with in the chronic state, attended with a mucous discharge, and therefore the author treats of it in this work. It occurs in different degrees, and the general symptoms are the same as in the procidentia uteri.

> "In a case where the uterus has been long inverted, and lies in the vagina, (the latter cavity having undergone no change, except from distention) it will not be advisable to recommend any other remedy, than the injection of some very mild astringent fluid, three or four times a-day, into the vagina. Some restraint will thus be placed upon the quantity of the discharge, and the parts will be kept clean by it. Pessaries are useless; for the vagina is already so filled, that nothing more can be retained in it." p. 148.

In an extreme degree of the inversion, when the uterus falls out, drawing down with it the vagina, the patient drags on a miserable existence, or dies from the constant discharge. But there are cases, of which the author relates one, where the removal of the uterus in this state has been performed with safety.

In Chapter XI., the author comes to treat of mucous discharges produced by whatever occasions an increased determination of blood to the sexual organs; and commences with hæmorrhoids, or piles. Women who have been frequently pregnant, and whose bowels are disposed to be constipated, are most liable to this disease. The author recommends the treatment to be adopted under the various circumstances in which the piles occur; and proceeds to a short chapter on the subject of ascarides in the rectum, which he considers as sometimes exciting a mucous discharge from the vagina, and which is to be cured of course by getting rid of the cause.

The reason for treating of carcinoma of the rectum, in Chapter XIII., is that though not a disease of frequent occurrence, yet, "as it sometimes happens, and as in some of its symptoms and in its termination it resembles carcinoma uteri, it deserves a place here, being attended by a mucous discharge from the vagina." This is not a short chapter, and is judiciously employed in pointing out the many expedients which we ought *not* to resort to, if we would not do mischief to an incurable disease. The two next chapters, on the symptoms and treatment of the same terrible malady, when it attacks the uterus itself, contain something more direct, in the way of regulating the diet, and regimen, and general management of the constitution, by which, in the incipient stages at least, some benefit may often be gained: but he justly deprecates any attempts, by steel or other modes of invigoration, to restore the strength; which, in fact, they altogether fail to accomplish, and sometimes aggravate the symptoms of distress.

The XVI. Chapter treats of polypus of the uterus, "an insensible tumour, attached to the internal part of this viscus by a small neck," to which both single and married women are subject, and women otherwise healthy, and whose uterus has suffered no violence. The author considers their cause as unknown. This is certainly one of those cases, in which not only examination is necessary, but which can only be cured by mechanical means. The author describes the symptoms, and marks the diagnostics from other tumours projecting into the vagina, for which the polypus may be mistaken, such as an inverted uterus, and the cauliflower excrescence of the os uteri. The ligature, as in other species of polypi, is the remedy in this case; and Mr Clarke mentions one instance in which the excrescence was so soft, that it broke away in attempts to fix the ligature. Some mechanical means of applying this, and the best mode of constructing it, are laid down by the author. It must be examined daily, and tightened if necessary; and when the neck of the tumour is sufficiently cut through, which happens at different intervals from four to ten or twelve days, the removal of the tumour is to be effected by the practitioner. The parts appear to recover their natural state very soon.

In Chapter XVII. the author treats of "the fleshy tubercle of the uterus," so first called by Dr W. Hunter.

> "It is a hard, whitish tumour, sometimes nearly as firm as cartilage, situated sometimes upon the surface of the uterus, between the muscular and peritoneal coat, sometimes projecting into the cavity of the uterus, and occasionally imbedded in its substance. In some cases there is only one tumour; in others there are several. Their form differs very much; they are most commonly spherical or hemispherical, but sometimes they take an irregular shape. When they project into the cavity of the uterus, their surface is smooth; the contrary is generally the case, when they form upon the outer surface, the tumour having a granulated appearance. These tumours are sometimes not larger than a pea; sometimes they weigh several pounds, and occupy a great part of the cavity of the abdomen." p. 243.

This malady is mistaken for hydrops ovarii, and for pregnancy in its early stages. But its growth is much slower than that of the gravid uterus, and is not accompanied by any change in the mammæ, or affections of the stomach. It is not uncommon, and attacks alike married and unmarried women, and at all periods of life after twenty: Its causes are unknown. Except a mucous discharge, the symptoms are principally those of pressure; irritations to pass urine and stools, and afterwards a difficulty and suppression of these discharges; cramps, and bearing down. The menstruation is various, and the constitution little affected. These tumours are not under the influence of physical agents, internally or externally applied; but there is some reason, the author affirms, to believe that they have been spontaneously absorbed. Some relief, however, may be occasionally given in emptying the bladder and bowels.

Chapter XVIII. contains a brief account of "verrucæ, or warty tumours, arising from the vestibulum," which are attended with a mucous discharge, and accompanied by extreme irritation. Extirpation by various means, adapted to particular circumstances here stated, is recommended by the author, when they are not syphilitic. The following chapter treats of another excrescence from the parts, which is both alarming and painful, a "vascular tumour of the orifice of the meatus urinarius." This is a small florid excrescence, which appears to shoot from the inside of the urethra, is exquisitely tender, and readily bleeds. Its attachment is very slight, and it requires removal by ligature; after which it is less liable to re-sprout, than if removed by scissors or caustic.

The author then describes another disease of the female urethra, which is accompanied by a mucous discharge, which is a general thickening of the cellular membrane surrounding that canal, throughout its whole extent, accompanied by a varicose state of the vessels. This little but distressing malady is distinctly described, and seems to consist principally of an enlargement of the veins. Warm applications eventually increase it. The most speedy relief is obtained by puncturing the vessels, or bleeding them with leeches, and afterwards applying cold saturnine solutions, using pressure, and the horizontal posture, and keeping the bowels free.

The two last Chapters treat of the transparent mucous discharges that are not accompanied by any alteration of structure; *first*, of that arising from increased action of the vessels; and *secondly*, of that depending on debility. The former is one among other symptoms of that general plethoric state, which is the result of continued high living and indolence, and which is often accompanied with enlarged liver. Bleeding, purging, and proper diet are of course the remedies for all the symptoms. The latter is the result of any general cause of debility, such as long diseases, profuse hæmorrhages, or anxiety of mind, living in hot rooms, and spending much time in bed, late hours, &c.

Sometimes it arises from suckling too long. The author describes the effects of the discharge in this case as very formidable, and sometimes even fatal; and directs the method of treatment.

With respect to the arrangement of this work, and the chapters introductory to it, we have been not quite satisfied; but the practical details are copious and valuable, and imply a considerable knowledge and familiarity with these subjects; and constitute a valuable contribution to this department of the profession. We think the book is too *fine* and expensive; and that the plates, with the exception of the representation of polypus, afford very little assistance, which description could not give; while they greatly enhance the price of the book.

II.

On Gun-shot Wounds of the Extremities, requiring the different Operations of Amputation, with their After-treatment: establishing the Advantages of Amputation on the Field of Battle to the Delay usually recommended, &c. &c. &c. With Four explanatory Plates. By J. G. GUTHRIE, of the Royal College of Surgeons, London; Deputy Inspector of Military Hospitals. 8vo, pp. 384. Longman and Co. London, 1815.

Of this book we may with truth say, "Indocti discant, et ament meminisse periti." The experienced and intelligent surgeon will have pleasure in acknowledging the interest with which he has perused it; but to the junior and less experienced members of the profession, and especially to the younger military surgeon, this treatise of Mr Guthrie must prove an invaluable gift. A work of this kind was, in truth, wanted for their instruction; and the *desideratum* has been most happily supplied, not by an ordinary surgeon, but by one bred in the camp and in the field of battle. The reader, too, is introduced to this great school of military surgery, and becomes accustomed to its horrors, its dangers, and privations. But, amidst the difficulties and privations of active campaigns, it is delightful to observe with what order and precision the medical arrangements have been conducted during the dreadful war of the peninsula; and to learn that our brave troops had the advantage of being succoured by surgeons of first-rate talents and acquirements. Such, indeed, appears to have been the zeal and talents of the more experienced surgeons of the staff, that the camp and field were converted into schools for the instruction and training of the younger medical officers, by all the aids of lectures and demonstrations. And, though we know that almost all the medical recruits who were sent out to the army had received what is called a regular and liberal medical education, and had not received their certificates or diploma till after a regular inquisitorial examination, though many had received even the highest honours of medicine, yet the lectures and demonstrations of the camp were necessary to make them actual surgeons, and they soon became excellent.

Military surgery, like military success and glory, is indeed of late date amongst us; and, to judge from the specimen before us, we think we have now no less reason to be proud of the one than of the other.

The practical conclusions of this interesting volume Mr Guthrie disclaims as exclusively his own; and he wishes them to be considered, in every thing that is useful, as the result of the general experience of the British military surgeons who have served in the late campaigns.

One of the most important questions in the department of military surgery is that so often discussed, with regard to the proper period for amputating,—whether, when such operations are necessary, they ought to be performed on the field of battle, immediately or soon after the injury received, or not till after the removal of the wounded into hospital or quarters, and when the first train of supervening accidents have been subdued.

The whole merits of this hitherto disputed point are most ably investigated by our author in his first section; but the question seems now finally determined, by the experience of military surgeons, in favour of early and immediate amputation, when the limb cannot otherwise be saved. Wiseman, Le Dran, and Ranby, who learned their surgery in the field of battle, are all advocates for immediate amputation; and, perhaps, with the exception of Bilguer, the opposite seems to have grown up with, and to have been defended, chiefly by men of limited experience in military surgery. At the beginning of the wars which have for some time past desolated the fairest parts of Europe, both the Continental and the British surgeons rather inclined to the side of delay; but experience has now taught both the French and the British surgeons the advantages of operating on the field of battle.

The objections made to this appear to have been founded chiefly on theoretical grounds;—these are examined and refuted in a very luminous and satisfactory manner by Mr Guthrie; but the argument drawn from actual, extensive, and general experience is so paramount, as to render all other exposition of the merits of the question most unnecessary in this place.

At first sight, indeed, it is obvious that, if a man must lose a limb, he had better lose it immediately, than after three or four weeks of pain, and suffering, and fever, and inflammation, suppuration, gangrene, and danger. It is certain also, that, in this struggle, many would die before the period of his last chance for recovery by amputation could arrive; but even this period, when the patient has survived and attained it, is less favourable for the operation than the moment when the accident was received; and, of any equal numbers of operations performed, the one number on the field of battle, and the other at the secondary period, it appears in evidence, that a far greater proportion of the former recover than of the latter. As the most satisfying proof of this leading fact, we shall content ourselves with exhibiting the following tables from the book now before us:

" Return of the capital operations performed at the hospital stations, between the 21st of June and the 24th December, 1813, of the army under the command of his Excellency Field-Marshal the Duke of Wellington; being a period of six months, from the advance of the British army from Portugal, until its establishment in winter quarters in front of Bayonne.

	Number operated upon.	Of which died.	Discharged, cured.	Under cure.
Amputation of the upper extremities,	296	116	105	75
Lower extremities	255	149	65	41
Total number of operations	551	265	170	116

The operations at the shoulder-joint not included.

" Return of the capital operations performed in the same period on the field of battle, and for the most part kept in regimental and divisional hospitals.

	Number operated upon.	Of which died.	Discharged, cured.	Under cure.
Amputation of the upper extremities.	163	5	64	94
Lower extremities..........................	128	19	43	66
Total number of operations..............	291	24	107	160

" The cases marked " under cure," in both statements, having passed the period of danger, are considered as recovered; and from this it will appear that the comparative loss, in secondary or delayed operations, and primary or immediate operations, is as follows :

	Secondary.		Primary.
Upper extremities.......................	12	to	1
Lower extremities.......................	3	to	1

" This difference is certainly very remarkable, and it is so well known to all the surgeons of the British army, as a constant occurrence, that there is no longer among them any doubt on the subject; and the following statement of operations performed on officers and soldiers, in consequence of the battle of Toulouse, will probably be even more satisfactory; as the medical duties both in the field on the day of action, and in the hospitals afterwards, until the final evacuation of Toulouse, were more immediately under my observation and controul.

" Primary Operations on the Field of Battle.

	Number operated upon.	Of which died.	Cured.
Upper extremities.......................	7	1	6
Lower extremities.......................	40	8	32
Total of primary amputations.......	47	9	38

" Of the eight that died of amputation of the lower extremity, three were shortly after the operation; which was performed as high as possible in the thigh by the circular incision, and one officer.

“ Secondary or delayed operations in General Hospital.

	Number operated upon.	Of which died.	Discharged cured, or considered out of danger when transferred from Toulouse.
Upper extremities	15	3	12
Lower extremities	36	18	18
Total of delayed, or secondary amputations.	51	21	30

The reasons of this difference of success are, that, in the primary operations, the amputations have been performed on a healthy subject, and on sound soft parts; and hence the stump generally heals by the first intention, and without accidents. In the secondary amputations, on the contrary, the health has been broken by much suffering for three weeks, or more; and the soft parts which are cut by the surgeon have been altered by inflammation; hence the stumps seldom heal without suppuration; often they ulcerate; and sometimes the limb becomes gangrenous, or the patient is attacked with fever, and dies from internal suppurations.

On the subject of gangrene we have also some excellent and judicious observations from Mr Guthrie; and especially from one kind of gangrene peculiar to gun-shot wounds of the extremities,—that which is the consequence of the wound of the principal arteries of a limb. The gangrene in this case commonly begins in the lower part of the limb, below the wound, perhaps in the toes and fingers, and spreads upwards; and the experience of Mr Guthrie leads him to conclude, that this case forms an exception to the general rule of waiting in gangrene for the line of separation, before proceeding to amputate.

“ Having lost all the cases of gangrene succeeding to wounds of arteries, and other cases of greater injury, in which it supervened on the third or fourth day without much previous inflammation; I began to think it an error to wait for the line of separation, when there appeared but little prospect of its formation. In two cases after the battle of Salamanca, in which I had reason to think the gangrene was of this kind, I amputated with success; a third died after amputation, but not of gangrene affecting the stump; and a fourth and fifth, which I left for the appearance of the line of separation, or the cessation of the gangrene, very soon died. This practice, in cases of severe injury, after gun-shot wounds, has succeeded in the hands of others, even in England."

After discussing all the questions and points of practice connected with amputations, generally as connected with gun-shot wounds, Mr Guthrie proceeds, in distinct sections, to the consideration of the particular operations.

Under each head he not only describes the modes of operating, but, with a freedom and ability which experience alone can give, he points out the nature, variety, and extent of those wounds and accidents which require the operations in question. These observations are most valuable and instructive, but scarcely admit of abridgment or analysis; and this is a book which we are most unwilling to save any one the trouble, we ought rather to say, the pleasure and profit of perusing. The account of the operations performed at the hip and shoulder-joint, are especially interesting. The former operation has been more than once performed by Mr Guthrie, and other British surgeons; we regret to add, that in one case only has it been completely successful. But this one is sufficient to justify an operation from which surgeons in general have shrunk. The operation of the shoulder-joint has become as perfect and as successful as any other operation.

A surgeon in private practice, who performs a few annual great operations, is still timid and apprehensive, compared to the military surgeon; and there is nothing more worthy of a passing remark, than that confidence and intrepidity which the military surgeon acquires, and which is in truth so necessary for him to have in the discharge of his important and arduous duties. Mr Guthrie has no silly fears of hæmorrhagy and uncompressed arteries, in cases where experience has taught him confidence. He cares not, indeed, in most cases, whether he has a tourniquet or not; an instrument which in some cases is, indeed, useless, as in operations at the great joints. In these he trusts with the most perfect confidence to the manual compression of the artery above the clavicle, and on the brim of the pelvis.

"The fear usually entertained by surgeons, is that of incontrollable hæmorrhage; and Mr John Bell (whose works have done so much good in the surgery of arteries), has here done much mischief, in persuading many young men that hæmorrhage from large arteries is not to be restrained by any pressure; which is, in my opinion, one of the principal errors of his work, in relation to military surgery, and is indeed almost as great an error as any he has laboured so effectually to overturn.

"He says, p. 415 of his Principles of Surgery, 'I will repeat with confidence what I have frequently affirmed, that it is one thing to suppress the pulse in the lower part of the limb, and another thing to stop the pulse in the great artery. I have tried in great operations, near the trunk of the body, to stop the blood by pressure; but though I could suppress the pulse of the femoral artery with my fore-finger, I could not command its blood with the whole strength of my body.' And in a note he says, 'the fact which I have here affirmed is of too much importance for me not to maintain it with more than common earnestness. I affirm then, that, though the throbbing of an aneurism, or the pulse in the lower part of a limb, be quite suppressed, yet the circulation is not stopped; and I entreat the young surgeon never to trust to any such mark of the compression being effectual.'

"If he wish it to be understood, that the inguinal, or the subclavian artery, cannot be commanded by any pressure, so as to prevent hæmorrhage on their division, it is merely advancing an opinion, that hardly needs a comment; for almost all the medical officers of the British army have, on many occasions, seen both vessels so effectually compressed by moderate pressure, that not one drop of blood has escaped from the orifice of the artery, after it has been divided. I am, therefore, willing to believe that this cannot be his meaning, but that he supposes a certain degree of pressure may stop the pulsation of the artery without suppressing the circulation; an opinion equally as dangerous, and erroneous, as the other; for it tends to keep the mind of the young surgeon in alarm, and thereby obstructs the free exercise of his judgment, during the whole course of many serious operations, when he often requires the greatest firmness to enable him to surmount the difficulties that present themselves. This alarm is most unnecessarily raised, for I have no hesitation in declaring, and I am supported in the assertion by all the surgeons of extensive practice in the British army, that when the pulse is suppressed in a great artery, that the flow of blood is completely restrained for every purpose in military surgery. I will even say, that the flow of blood shall be entirely suppressed, and yet the pressure upon the subclavian artery above the clavicle, shall be so moderate, that the instrument will not leave a mark upon the skin discoverable after twenty-four hours. I do not assert this without solid foundation, for I have seen the inguinal and subclavian arteries compressed and divided very many times, and I have had the femoral and axillary arteries as often between my fingers; but I never saw blood projected one inch from the orifice of these vessels without the pulsation or motion of the artery taking place; and I never saw blood flow in a stream from the orifice of any large artery. I have seen, when the sides of these vessels have not been pressed exactly together, so that the inner coats have not been in contact, that a little blood has oozed to the mouth of the artery, and that it has even dropped from it; but the moment this drop became a stream, the pulsation of the artery was sensible to the fingers, and the blood thrown out, came *per saltum*. I have never found any difficulty in holding the divided end of the femoral or axillary arteries, between my finger and thumb, whilst a ligature has been placed upon them; and I do not, therefore, believe, that the blood is propelled in these arteries with a force that is not readily overcome by moderate pressure; or that, in a healthy man, any circulation goes on in an artery, when the pulse of that artery has ceased in consequence of pressure. It is not, indeed, consistent that it should, for, if the circulation can go on so as to cause a dangerous hæmorrhage, without any pulsation of the artery, the continuance of it in the smaller arteries in a state of health, would almost appear unnecessary. If it be said that it is not circulation, but merely a little blood that passes between the sides of the vessel that are not exactly in contact; I would reply, that if such an occurrence did take place, the quantity must be so small as to be unworthy the attention of the surgeon; for, if it were in greater quantity, it would be attended by pulsation of the artery.

"I do not mean, in the slightest degree, to doubt the correctness of Mr Bell's statements of his inability to suppress the circulation in the cases of aneurism he has adduced. I mean to assert only, that the passage of the blood through a healthy artery, can be effectually prevented by moderate pressure; that when the pulse has ceased in a large artery in consequence of this pressure, the circulation is suppressed for every purpose in surgery; and that the surgeon may, therefore, divest himself of all fear of hæmorrhage. It is, indeed, a fact so notorious in the medical department of the army, that I need not have noticed it thus particularly, if I did not think the great authority of Mr Bell's opinion might prevail when the practice of the peninsular war shall be forgotten."

The various doctrinal and practical discussions in which Mr Guthrie engages, are illustrated and enlivened by a variety of cases, and observations of the highest interest.

Such a book, in short, as this, was wanted; and we now have one which ought to be in the hands of every military surgeon.

III.

An Inquiry into the Causes of the Motion of the Blood, &c. By James Carson, M. D. &c. Liverpool, 1815.

It is now so long since the discovery of the circulation of the blood first attracted the attention of physicians, and so much has been written on it, that we did not expect to find any thing new on this subject in Dr Carson's Treatise, for he confines his attention to the mechanical part of the question. It is not his object to inquire into the principle on which the action of the heart and blood-vessels depends, but simply by what means the motion of the blood is supported. His views of this subject, which seems to admit of so little difference of opinion, have at least the merit of novelty.

In the following observations we shall, in the first place, lay before the reader the opinions of Dr Carson; then endeavour to ascertain how far they are correct; and lastly, make some general observations on the manner in which his work is executed.

We shall give an account of his opinions in our own words, because we think it may be given in a much more concise form, and in much simpler language than it is given by him.

Dr Carson has said a great deal of the cause of the motion of the blood in the arteries, although his opinion on this head does not differ from that generally received. Some of his trains of reasoning in this part of his work do not appear to us to be correct, particularly his demonstration of the direction in which the blood is propelled by the sides of the contracting vessels. He regards the arterial system as a cone, the trunk forming the apex, the extreme branches the base. In an extended sense of the word we may call it a cone, but every one must see the inaccuracy of applying to it a demonstration founded on the properties of the cone, properly so called. Thus, as might be expected, Dr Carson's demonstration certainly does not apply to the arterial system. Others of his trains of reasoning appear to us superfluous, particularly that by which he demonstrates that the quantity of blood which moves through every part of the aortic system in any given time, must be precisely the same with the quantity of blood thrown by the heart into the aorta in that time. This is self-evident, when it is known that the heart always receives from the veins precisely the same quantity which it throws into the arteries, which of course must be the case. But without farther observations on this part of the work, let us proceed to that in which Dr Carson brings forward the opinions peculiar to himself.

These relate to the motion of the blood in the veins, and its reception into the cavities of the heart. Dr Carson has shewn, by several experiments, that, on admitting the air into the cavity of the chest, the lungs collapse with considerable force; it appears, from these experiments, with a force equal to the weight of a column of water seven inches in height. It therefore follows, that while the external surface of the chest sustains the whole weight of the atmosphere, its internal surface is pressed with this weight, minus the weight of a column of water of seven inches, the measure of the force with which the lungs are constantly tending to collapse.

Now it is evident, as Dr Carson observes, that the internal surface of the heart must be regarded as part of the external surface of the chest, as far as relates to the lungs; and the external surface of the heart, as part of the internal surface of the chest; the former pressed by the whole weight of the atmosphere communicated through the venous blood, the latter with that weight, minus a weight equal to a column of water of seven inches. It appears from this statement, that the weight of the atmosphere tends constantly to distend the cavities of the heart with a force equal to the weight of this column of water; the consequence of which is, that the blood passes from that part of the great veins lying nearest to the heart into its cavities with this force. The blood in this part of the great veins being thus displaced, according to the most simple law of hydrostatics, namely, that a fluid, contained in cavities communicating with each other in all preserves the same level, the blood from the other veins flows towards the heart, and thus a current of blood is produced in this direction throughout the whole venous system.

But Dr Carson does not maintain that the motion of the blood in the veins arises from this cause alone, but shews, by a very simple train of reasoning, that the force with which the blood enters the capillary veins is precisely equal to that with which the heart propels it into the great arteries. This is evidently a consequence of the quantity of blood which moves through every part of the vascular system in a given time being necessarily the same, for a reason we have just had occasion to point out.

Such then are the means by which, according to Dr Carson, the blood is moved in the veins. He maintains that the veins themselves possess no power of propelling the blood. *

The theory which we have now laid before our readers is evidently the result of considerable reflection, and no small share of ingenuity. Were these, however, the only things which recommend it, we should neither have troubled our readers with so particular a statement of it, nor with the observations which we mean to make on it. We have no hesitation in saying, that Dr Carson has pointed out a principle which, to a certain degree, influences the circulation, which, as far as we know, has escaped

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* We have not noticed, because we cannot admit what Dr Carson says of the heart possessing a peculiar power of dilating itself.

the attention of other writers. Every contribution to our knowledge on so important a subject ought to be received with gratitude, and examined with care, in order to see to what consequences it may lead. We are now to inquire what contribution Dr Carson has really made to our knowledge. We fear he will not be pleased with our observations, because they reduce this contribution to a sum so very much smaller than his estimate makes it.

Dr Carson, as we have just seen, admits, as indeed is most evident, that the tendency of the lungs to collapse, or, as he terms it, their resilience, cannot bestow on the heart such a power of suction as to support the motion of the blood in the veins independently of the *vis a tergo* which is derived from the arteries. Of the force with which the blood enters the capillary veins Dr Carson makes a just estimate. In proportion as the blood moves slower in the capillaries than when it leaves the heart, it moves in greater quantity; and the force of a moving fluid is directly as its velocity multiplied by its quantity of matter. But it is evident in the present question, that it is of no use to ascertain the momentum with which the blood enters the capillary veins, if we cannot ascertain what part of this momentum it retains after it is in the veins. If there is a cause extinguishing its momentum almost as soon as it enters the veins, it signifies not with what force it enters them. We apprehend such a cause does exist. When we compare the motion of the blood in the aorta, for example, with its motion in the capillary system, we find not only that its velocity is greatly diminished in the latter, of which Dr Carson is aware, but that with this diminished velocity, it has a degree of friction to overcome in the capillaries, equal to that opposed to it in the aorta multiplied we know not how many times. Of this Dr Carson makes no account whatever. Now, it would not be difficult to shew, that the momentum with which the blood enters the capillary veins would not so far overcome this cause of retardation, as to support the motion of the blood above a very short way in them. But as this calculation would be tedious, it is fortunate that we have direct experiment to appeal to. From the experiments made by Dr Wilson Philip with a view to ascertain the cause of inflammation, an account of which is given in the introduction to the second part of his treatise on Febrile Diseases, it appears, that when the capillaries of even a very small part lose their power, the *vis a tergo* can no longer propel the blood through it. When the power of the capillaries was lost, the blood remained stationary in them. Dr Carson, therefore, must wholly abandon the *vis a tergo* as a means of the blood's motion in the veins. Having done so, he will confess that his other powers are inadequate to the task.

But we must go farther; even these powers in the extent in which he claims them we cannot allow him. We admit that the tendency of the lungs to collapse is a power tending to dilate the heart; but, when we compare this power (admitting the accuracy of Dr Carson's experiments, on which its supposed amount evidently depends) with the velocity with which we know the blood moves in the veins which pour it into the heart, we must, we conceive, at once reject the idea of the latter being a consequence of the former. If Dr Carson's experiments are correct, we have sufficient data to ascertain the question by calculation; but we believe that our readers will agree with us, that this task is superfluous. If we admit that the resiliency of the lungs has but comparatively little effect in distending the auricles, a similar mode of reasoning applies to the ventricles, into which the blood enters with the momentum acquired by the contraction of the auricles, the power of which Dr Carson surely greatly undervalues.

It may be farther observed, that the hydrostatical law, above referred to, will, even according to Dr Carson's theory, only influence the distribution of the blood in the veins above the level of the heart, anastomosing branches being everywhere numerous In the erect position, consequently, it can influence but a very small portion of the venous system. If we admit the common opinion, that the blood is thrown into the auricle by the *vis a tergo*, combined with the power of the vessel itself, it is evident, that the hydrostatic law in question has no place here whatever.

Dr Carson admits, that the arteries possess a muscular power, without giving any reason for denying it to the veins, in which the proofs of its existence rest upon precisely the same grounds. We shall not here inquire into the proofs of the blood-vessels possessing a truly muscular power;—an opinion very generally admitted, notwithstanding it is opposed by some writers, and particularly by Bichât, but we think on very insufficient grounds. In the experiments of a writer we have already had occasion to mention, we find an additional proof of the muscularity of the vessels. It appears, from Dr W. Philip's second paper on the relation between the sanguiferous and nervous symptoms, published in the Phil. Trans. of London for the last year, that the relation which subsists between the nervous system and the blood-vessels is, in all respects, the same with that which subsists between that system and the heart, whose muscularity cannot be questioned.

But even those who deny the muscularity of the vessels, admit that they possess a contractile power peculiar to themselves, on which the motion of the blood depends. Dr Carson, as far as we know, is the only modern writer who denies all power to the veins.

If there were nothing else to oppose the opinions of Dr Carson, the state of the lungs in the fœtus would to us be conclusive against them. The objection has not escaped Dr Carson, and we admit the ingenuity of his explanation. He maintains, that, as the diaphragm rises higher in the fœtus than after birth, we may suppose that there is a constant tendency in it to bring itself more into one plane; or we may suppose, that, in the fœtus, it acts much in the same way as after birth. In either of these cases, he justly observes, the external surface of the heart would be relieved from part of the pressure of the atmosphere. These, of course, are both mere suppositions: the first highly improbable, because we cannot regard the state of the diaphragm in the fœtus as a forced state: the other not capable of answering the author's purpose if he could prove its accuracy, because either the auricles or ventricles of the heart are always contracting, whereas, according to this supposition, the action of the diaphragm would only lessen the pressure of the atmosphere on the external surface of the heart by intervals. What Dr Carson says of the disposition of the valves of the heart being favourable to his opinion is of little weight, because it is equally so to the commonly received opinion.

We have now, we believe, mentioned all the arguments of any importance which he brings forward in support of his opinion, that the motion of the blood in the veins depends on the resilience of the lungs. From all that has been said, we feel no hesitation in regarding the opinion as erroneous. We still, however, think ourselves obliged to Dr Carson for his book. He has pointed out a cause which, in the nature of things, must after birth have some effect, however small, compared with what he believes it to have, towards dilating the heart, and, consequently, promoting the motion of the blood in the venous system. If ever a correct estimate of the forces which support the circulation be made, the power pointed out by Dr Carson must be taken into the account.

It only remains to make some general observations on the manner in which the work is executed. We wish our report on this head could be more favourable. We object to at least four-fifths of it, being what every student of medicine already knows; to the unnecessary diffuseness of every part of it; and to the language being what may be called affectedly scientific, because it is more so than the subject requires. Had the author, instead of making a book, given a concise and simple account of his opinions in a small pamphlet, or a paper in some periodical work, we think they would have met with a better reception. We have paid the more attention to them, because they have already been treated with unmerited contempt in a medical jounal of a neighbouring kingdom.

IV.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Volume the Sixth. 8vo, pp. 676, with six Plates. Longman and Co. 1815.

We can do little more than announce the large and valuable volume, published by this industrious and well-conducted society, as the produce of the sittings of last season. It contains many original and interesting communications in almost every department of the medical art, which it would occupy too many of our pages to give even a slight and imperfect account of. The importance of the society as a central point of communication throughout the profession, is every year more and more manifest, and is particularly evinced by the following statement in the preface to this volume.

> "From the articles of this year it will be perceived, not only that the medical department of the army has continued its communications, but that one of the branches of the legislature, the several public offices of the navy, and the Honourable East India Company, have allowed the society access to their records, from which much interesting and valuable information has been derived. This liberal co-operation, so honourable to these bodies, and so flattering to the society, is gratefully acknowledged by the president and council."

From these sources, indeed, we may anticipate many important accessions to medical science, respecting the origin, progress, and treatment of endemic and epidemic diseases, which might not be obtainable by other means. The increasing list of highly respectable members, which every successive volume exhibits, the announcement of a valuable and extensive library, and of accumulating communications, and the proposal of publishing their Transactions twice a-year, are an earnest of the advancing and permanent utility of the society, and a demonstration of the success of individual zeal and energy, in the steady pursuit of science, unsupported by patronage, and unsanctioned by corporate privileges.

This volume contains twenty-seven papers, some of them possessed of great interest, but the substance of which we cannot undertake to detail. The first, seventeenth, twentieth, and twenty-first, from the pens of Dr Calvert, Dr Denmark, Sir James Macgrigor, and Sir Gilbert Blane, relate to the medical history of particular epidemics or periods of time; and are extremely valuable communications. The introduction and progress of the contagion of the plague, in the island of Malta, in the year 1813, is detailed with great distinctness and much interest, in Dr Calvert's paper, which opens the volume; and the whole of the proceedings of the police, with their proclamations, and public acts, are minutely given. Dr Calvert, however, differs, in the inferences, which he deduces from this interesting history, from the generality of writers on this subject: for he not only denies that contact is necessary, or fomites, to propagate the contagion; but he maintains that a single individual may, in certain seasons, infect the atmosphere of a whole city.—The short paper of Dr Denmark on the Mediterranean fever is an excellent epitome of what has been said by Dr Irvine, and the best writers on this subject. It contains a clear and judicious estimate of the value and peculiar effect of the leading remedies, especially blood-letting, and purging by calomel and antimony. The fever was clearly contagious in the hospital at Minorca.

The important document of Sir James Macgrigor, describing the medical history of Lord Wellington's campaigns in the Peninsula, will be read with great interest. Sir James first describes the progress of the armies, the situations of the hospitals, and the state of sickness which occurred in the four successive seasons, from December 1811 to June 1814, when the war terminated in France. In the second part, he enlarges upon the nature of the diseases, which prevailed, and of the remedies employed. And in the third portion of the paper, he gives an account of the means of prevention, or of those measures by which sickness was diminished in the army, and mortality in the hospitals. During the period of time just mentioned, 346,108 cases of disease or wounds were treated in the hospitals of the army, of which 232,553 were discharged cured;—4,586 were invalided, or sent to England for recovery, and 18,513 died. This mortality, however, includes every wounded man, who had been seen by a surgeon, and therefore comprehends many hundreds who did not live an hour after they were seen.

Deducting these, the mortality from diseases appears to have been small, considering the causes; and Sir James speaks in high terms of the professional zeal and talent of the physicians and surgeons in the general hospitals in the Peninsula. The analysis of this portion of the paper would afford sufficient interest for an article of our review, the subjects of fever, dysentery, tetanus, and other important maladies, their treatment, and their variations in number and violence in different seasons and places, being given from public and authentic documents. The effect of regularity in the supply of food, proper clothing, cleanliness, warmth, &c. in producing a great degree of health, during the last year and half of the service of the Peninsular army, is very clearly established. This was remarkably demonstrated by the Germans. "The temperance, steadiness, and regular habits of the German legion kept them always in good health." It is added, that "the First German Hussars neither lost a man, nor sent one to the general hospitals, during the retreat from Burgos, nor till after the next campaign was opened, and when we were advancing into France." This important document concludes with a just and well-merited eulogium on the zeal and utility of the medical department of the army, which contributed most largely to a successful issue of the contest; and with several tables, containing a general abstract of the admissions, discharges, and deaths, during the respective periods, and of the particular diseases, and their respective and proportionate mortality.

Another document of the highest interest and importance, is from the pen of Sir Gilbert Blane, to whom, with the late able Dr Lind, this country is indebted for much of the improved health and strength of the other arm of her power, the navy: it is entitled "Statements of the comparative Health of the British Navy from the year 1779 to the year 1814, with proposals for its farther improvement." This paper is drawn up partly from the sources of information open to Sir G. Blane as physician to the fleet in the American war, and as commissioner of sick and wounded seamen from 1795 to 1802, and partly from the liberal access given to Sir Gilbert, on behalf of the society, by the public offices of the navy to their records, from which all requisite extracts were freely supplied. Perhaps medical science has no ground of triumph so solid, as the great security to human health which it has established, upon clear and rational principles, under circumstances which, half a century ago, were productive of so much mortality. The sum of the information collected is condensed in six tables, and the substance of the paper consists of a detail of the principal diseases, by which the former mortality was occasioned, and of the causes of the gradual diminution of that mortality, which the tables demonstrate. "It has been proved that it has added at least one-third to the national force."—This, however, is not the whole benefit; for the mortality of commercial sailors, in all long voyages, has been in a similar manner diminished.

Though there are no papers of equal moral and political importance with the two just noticed, this volume contains some others of great practical interest and originality, and which directly contribute to the advancement of the medical art. Among the most novel and valuable we may mention the communication of Mr Lawrence, respecting "a new method of tying the arteries in aneurism, amputation, and other surgical operations," which appears likely to constitute a great and important improvement in these formidable operations.—In the cure of these great artificial wounds, a great impediment to union by the first intention is the interference of the ligatures, which must be extended through the apertures. Mr Lawrence ingeniously proposes to substitute a ligature, equally effectual in its operation upon the artery, but so minute in substance as to be probably not felt by the constitution as an extraneous body. The following paragraph will explain.

> "The method I have adopted consists in tying the vessels with fine silk ligatures, and cutting off the ends as close to the knot, as is consistent with its security. Thus the foreign matter is reduced to the insignificant quantity which forms the noose actually surrounding the vessel, and the knot by which that noose is fastened. Of the silk which I commonly employ, a portion sufficient to tie a large artery, when the ends are thus cut off, weighs between $\frac{1}{30}$ and $\frac{1}{60}$ of a grain: a similar portion of the thickest kind I have tried weighs $\frac{1}{20}$ of a grain, and of the slenderest $\frac{1}{100}$. These ligatures do not interfere with the process of adhesion, and we shall hardly entertain any serious apprehension that substances so minute will excite subsequent irritation and disturbance."

In noticing objections that may occur to this practice, Mr Lawrence shews, both from reasoning and experiment, that the notion, that a large artery requires a large ligature, is not correct; but, on the contrary, affirms, that, "if any proportion is to be observed between the size of the artery and of the ligature, it should be an inverse one; the large vessel requiring a small ligature, while a small artery may be tied without danger with a large one." He acknowledges, however, that he is not yet in possession of facts enough to answer satisfactorily a question, which will naturally suggest itself. "What becomes of these ligatures? Do they come away with the discharge, or remain where they are placed? In the latter case, do they lie quietly in the parts? are they surrounded by a cyst containing matter? or may they be absorbed?" He has never seen these ligatures come away; and there has been no abscess in any case after the healing of the wound, nor any other symptom that could be ascribed to the ligatures. He believes that the layer of lymph, which is so quickly effused on cut surfaces, covers and incloses these small threads, which must therefore be retained. But hitherto no opportunity has occurred of examining parts at a sufficient distance of time from their application to elucidate this point fully. He has, however, adduced, in the sequel of this paper, considerable evidence of the safety with which these little ligatures may be retained. Sixteen cases of various operations, and several experiments on animals, are related, in which this result was ascertained. "During the last ten months," he says, "I have employed this method of securing the arteries, in ten or eleven cases of amputation, in six operations on the breast, and in the removal of two testicles. The cases all did well, excepting a man who lost his thigh, and who died of an affection of the lungs: the wounds healed readily, and nothing was seen of the ligatures." The various kinds of silk used for these purposes are described, and the different degrees of accuracy with which they divide the internal coats of the arteries stated from experiment.

Mr Lawrence has contributed another long and valuable paper on the subject of those affections of the larynx, which require the operation of bronchotomy. The result of the numerous facts, which he has collected, is, that this operation is in itself altogether free from danger, as it has been performed many times with complete success, and has not in any instance produced unpleasant consequences; but that it is seldom effectual, unless performed very early; because the disturbance and debilitating influence of the impediment to respiration are of themselves fatal after a certain time, even if the original obstruction be removed.

Mr Brodie, continuing the investigation of diseases of the joints, has here made a long and valuable addition to his former communication, in a paper entitled "Further Observations on the Ulceration of the Cartilages of the Joints;" and Mr Travers, in farther prosecution of his former proposal to remove a ligature within a short time after its application, has communicated some additional observations on the subject. He has continued to prosecute the subject experimentally, both with ligatures, and the compressor of Assalini, and obtained some conclusions, of which he intends to shew the practical application in a future communication.

Mr Howship has contributed an experimental paper, containing the result of some microscopical observations relative to the first processes of ossification in the growth and formation of the fœtus.

Among other interesting practical papers, those which exhibit the successful operations of tying the great arteries are not the least important. Mr Dalrymple of Norwich has added another case to that of Mr Travers, which was printed in the 2d Volume of these Transactions, of "aneurism by anastomosis in the orbit, cured by tying the common trunk of the carotid artery." After a lapse of two years, the cure appeared to remain complete. A case of axillary aneurism, occurring at Kingston, in Jamaica, in which the artery was tied below the clavicle, is related by Mr Chamberlaine: the operation was successful, and as the author observes, "affords a striking example of the competency of the anastomosing channels to nourish the limb, when its principal artery has been obliterated at nearly the highest possible point that dissection can reach it, and that, too, at an early period of the disease."

Mr Chevalier briefly relates the success of the operation of bronchotomy in a case of croup, in a boy of seven years old, who appeared to be sinking, on the third day of the disease, from impediment to the breathing, with a livid countenance, and cold sweats. The child was speedily relieved, after the gushing out through the opening of about an ounce or an ounce and a half of a frothy mucus, of a reddish brown colour, which was followed by a full inspiration, which enabled him to cough up more of it. Mr Chevalier is of opinion, that the use of bronchotomy in croup results chiefly, therefore, from emptying the trachea of mucus, and thus enabling the patient so to cough, as to clear the branches of the bronchiæ, and admit the air to the lungs.

An extremely well-pictured case of cynanche laryngea is given by Dr Roberts, of Bishop Stortford, in which by his good management the disease was arrested. This is the more interesting, that the same patient, a distinguished physician himself, afterwards fell a victim to another attack of the disease. This we learn from a paper of Sir G. Blane, which follows, containing some remarks on this and other cases of the same malady. The patient was Sir John Macnamara Hayes, whose fatal case (with that of another amiable and excellent physician, who perished by the same disease about the same time) has been described by Dr Baillie in the 3d Volume of the Transactions of a private Society for the improvement of Medical and Chirurgical Knowledge. We do not fully accord with the summing up of the President, in his paper which follows, upon the evidence of the good effects of particular expedients in the successful cases; inasmuch as he appears to us to put into the back ground the very remedy by which the disease was apparently subdued, in this first attack, namely, free blood-letting. And in the successful case, related by Mr Wilson, in the last volume of these Transactions, the patient was bled nearly to fainting. Surely, if the patient is seen within 48 hours of the attack, bleeding must be deemed the first remedy, and a large blister the second.

There are several other papers, each possessed of some interest, but of which we have left ourselves room for little more than an enumeration of the subjects. The dilatability of the female urethra has been manifested by many facts on record, and which are referred to by Dr Yelloly, in a short communication, in which he describes the case of a woman, through whose urethra a calculus, weighing upwards of 3 ounces troy, and measuring 7½ inches in its larger, and 5½ in its smaller circumference, passed, and was at length removed by the fingers only. One useful paper of Mr Barnes of Exeter details some cases and observations on the incontinence of urine, consequent to sloughing or ulceration of the bladder, from injury during labour. And a case of mortification of the uterus, occurring a few hours after delivery, is related by Mr Graham of Turnham Green. Dr Gumprecht, a Saxon physician, has contributed an account of the use of the Lactuca virosa, in hooping-cough, with two cases, in which it appeared to be beneficial, after the inflammatory stage had subsided. It is impossible to abridge either the experiments or results of a chemical analysis; and we must, therefore, refer to the volume those who wish to be acquainted with the constituent parts of chyle and chyme, which Dr Marcet has subjected to analysis, and here described. He has also added a note, in reference to the use of silver as a test of arsenic, which he had mentioned in a former paper; having since discovered that the presence of phosphoric acid might produce a little ambiguity, which he here removes.

Of the remaining papers, the most interesting is Mr Earle's account of the use of nicotiana in certain cases of retention of urine. The powerful effect of this medicine, administered as an enema, in strangulated hernia, led Mr Earle to the suggestion, in cases of retention of urine from spasmodic stricture. These cases are related illustrative of the sort of retention, and of the effects of the medicine.—"A case of Locked Jaw, cured by oil of turpentine given as a clyster," is related by Dr Phillips. This locked jaw was of an hysteric character, and was accompanied by general convulsive paroxysms; and after warm-baths, antispasmodics, and purgatives had afforded but temporary relief, a glyster containing half an ounce of oil of turpentine, seemed to excite a rapid and general relaxation both of the jaw and the other spasms. The remaining papers consist of "a Case of Obstruction in the large Intestines, occasioned by a biliary calculus of extraordinary size," by Mr Thomas; "a Case of Incontinence of Urine of nine years duration, cured by external pressure," by Mr Hyslop; "a Case of an extraordinary enlargement of the Scrotum, with an operation successfully performed for its cure," by Dr Titley of St Christophers; "an account of a Case, in which parts of a fœtus were found in a tumour situated in the abdomen of a girl two years and a half old," by Dr Phillips of Andover: "Two Cases of the true Elephantiasis, or Lepra Arabum," by Mr Lawrence and Dr Southey;—and a "Case of Hernia Ventriculi from external violence, wherein the diaphragm was lacerated without fracture of the ribs," by Mr Wheelright.

From this brief and rapid sketch of the contents of this interesting volume, the reader will be able to form some idea of its value, and to determine the propriety of adding it to his library. Without occupying all the space allotted to the reviewing department in our Journal, we could not easily give the substance of these multifarious communications: we have endeavoured, however, to analyse those, which appeared to us the most important, and to mention the leading facts of the shorter and less comprehensive papers, so as to exhibit the character of the volume. And we congratulate the profession on the prospect of the continued additions to medical science, which we may confidently anticipate from the same source.

V.

A Treatise on Hernia, by Antonio Scarpa, Professor of Clinical Surgery in the University of Pavia. Translated from the Italian, with Notes and an Appendix. By John Henry Wishart, Member of the Royal College of Surgeons, and one of the Surgeons to the Public Dispensary of Edinburgh. *Illustrated by Fourteen Engravings.* Edinburgh, 1814. 8vo, pp. 548.

We have on a former occasion given such a full account of this work, that nothing now remains for us to do, but, in justice to Mr Wishart, notice his translation. The English reader is indebted to Mr Wishart not only for the translation, but for bringing within the reach of the public a book which, in its original form, is too expensive ever to be generally circulated. The translation possesses all those merits derived from the translator having a perfect knowledge both of the subject and of the language from which the translation is made. Besides, he has, we think, with great success shown the application of the anatomical language of Dr Barclay, by adding his terms in the form of notes; so that, whilst the common language of anatomy is used in the text, by referring to the notes any want of precision in the description is removed, and the reader familiarized with the new nomenclature. In no part of anatomy or pathology could the utility and advantages of this nomenclature be more strikingly illustrated; and it seems only to require time for the ear to become accustomed to the terms (some of which do not seem to have been the offspring of a very melodious ear), to introduce them into general use.

In an appendix the translator has treated of several useful topics, the omission of which was a defect in the original work, and has given an abridgment of a memoir added by the French translator M. Cayol. The value of this appendix will be appreciated from the following enumeration of its contents:

> " Definition of hernia. Different names given to herniæ from their contents, situation, and the state in which they occur. General diagnosis of hernia. Diagnosis of inguinal hernia. Of the taxis. Of the operation for inguinal and scrotal hernia. Of the treatment after the operation. Of femoral hernia. Of the diagnosis of femoral hernia. Of hernia of the perineum, of the foramen obturatorium, of the vagina, and of the sacro-sciatic notch. Of hernia of the urinary bladder. M. Cayol's cases of mortification, occurring in an intus-suscepted portion of intestine in hernia."

In short, the translation is preferable to the original, except in regard to the plates; which are very poor indeed. But the fault is not Mr Wishart's, nor even the publishers; for engraving is, in this country, so expensive, that if fine plates had been indispensable, the translation could not have been published; and, after all, very indifferent engravings will readily supply all the defects of good description, which is their real purpose.

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the PUBLIC DISPENSARY, *near Carey-Street, London, from November 30th* 1815, *to February 29th* 1816.

Acute Diseases.

	No. of Cases.		No. of Cases.
Febris	16	Rheumatismus	6
—— infantum remittens	10	Enteritis	1
—— quartana	1	Peritonitis	2
Hydrocephalus	3	Rubeola	8
Cynanche tons.	13	Scarlatina	3
Ophthalmia	1	Variola	4
Peripneumonia	23	Erysipelas	1
———— notha	3	Pertussis	2
Pleuritis	7	Apoplexia	1
Catarrhus	179	Abortus	2
Dysenteria	7		

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa et Vertigo	18	Enterodynia	9
Asthma	2	Diarrhœa	17
Catarrhus chronicus	99	Colica pictonum	1
Hæmoptysis	13	Marasmus	10
Phthisis	21	Nephralgia	7
Odontalgia	2	Dysuria	2
Hæmatemesis	2	Lumbricus	1
Palpitatio	2	Ascarides	1
Dyspepsia	25	Menorrhagia	14
Gastrodynia	14	Amenorrhœa	5
Pyrosis	5	Leucorrhœa	7
Icterus	2	Hysteralgia	2
Hepatalgia	2	Diabetes	1

CHRONIC DISEASES continued.

	No. of Cases.		No. of Cases.
Anasarca	6	Intertrigo	3
Hydrops	9	Lepra	2
Asthenia	11	Psoriasis	4
Rheumatismus chronicus	43	Ichthyosis craris	1
Chorea	2	Urticaria	1
Epilepsia	5	Purpura	1
Hysteria	5	Impetigo	5
Convulsio	4	Porrigo	8
Scrofula	2	Ecthyma	1
Strophulus	1	Scabies	8
Lichen	2	Aphthæ	1
Prurigo	3	Rupia	3

The winter, though it can scarcely be said to have been a severe season, has been productive, however, of much illness by the perpetual fluctuations, and the occasional intensity of the cold. On two nights, indeed, in February, the thermometer was lower by many degrees than it has been for a great number of years, and much lower than it ever was during the severe frost of 1814.* In fact, although there has been no long-continued frost, and therefore it has not been felt as severe, if the number of frosty days, from the early part of November when they commenced, were to be counted, it would be found that, on the whole, the cold of this winter has been considerable. The fluctuations, however, have been frequent and unusually great, a change of above 20 degrees of the thermometer having sometimes occurred in the course of twenty four hours.

The result of this has been very unfavourable to the public health; for a more general prevalence of catarrhal and pulmonary diseases has not been observed since the year 1803, than has occurred since Christmas. The number under the heads of all the other diseases in the preceding list is small, and seems to have given place to the multiplication of catarrh. Indeed for a few weeks it was scarcely necessary to inquire respecting the nature of the complaint, so uniformly catarrh followed catarrh, among the successive applicants at the Dispensary. On the whole, the disease, too, has assumed an unusually inflammatory type: it was not the influenza, however general its attacks; for it was not accompanied by the usual depression of the vital powers, which mark that modification of catarrh; nor was it prone to assume the low and bastard form of peripneumony, or that of the moist and expectorating chronic cough and dyspnœa: but was in most cases a hard and active catarrhal cough, or a more active pneumonia, requiring and bearing well the lancet, and free blistering, with evacuants of calomel and antimony. We had an opportunity of witnessing the benefit of a second and even a third bleeding, in some cases, where neither the apparent constitutional vigour nor the age would have led us to anticipate an inflammation so active as to require so much depletion; but which the consequent relief and success amply proved to be necessary. Whatever may be the cause, there seems to be a manifest difference in the character of the same diseases at different periods, as Sydenham remarked; and the epidemic catarrh of this season appears to have been more inflammatory than those which have sometimes obtained the appellation of influenza.

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* The common registers in the magazines are not to be depended upon, as their great *difference* demonstrates. From the accurate observations of Mr Howard, it appears, that on the 9th of February, at night, the thermometer near the snow at Tottenham stood as low as *minus 5*, or 5° below *zero*. I understand it was observed at —2 at Kew, and —4 at Northampton on the same night; a degree of cold not observed above once in 20 or 30 years.

In each of two families among whom the cases of measles occurred, there appeared to be tolerably clear evidence of one individual, who now had the disease, having previously undergone the eruption and catarrhal affection in a regular way; in fact, that one child in each family now had the measles for the second time. The boy first attacked in one family, and who infected the rest, was eight years old, and the mother, an intelligent woman, would not believe that the eruption could be rubeolous, in consequence of a distinct recollection of his having gone through that disorder when he was a year old, through the course of which he was attended by a medical practitioner, who pronounced it to be measles. We have the high authority of Dr Baillie, recently published in testimony of the same fact; and the measles would indeed constitute an anomaly among these contagions, if the general rule of its occurrence only once during life were not liable to the same exceptions with the smallpox and scarlatina. T. B.

London, Feb. 29, 1816.

REPORT *of* DISEASES *treated at the New Town Dispensary, Edinburgh, from its institution September* 1*st* 1815 *to March* 1*st* 1816.

	No. of Cases.		No. of Cases.
Febris continua	32	Obstipatio	26
——— ephemera	9	Vermes	25
——— a dentione	14	Diarrhœa	23
——— remittens infantum	29	Dysenteria	3
Hydrocephalus	3	Tabes mesenterica	10
Cephalæa	26	Enteritis	1
Melancholia	3	Peritonitis chronica	1
Oneirodynia	1	Hæmorrhois	7
Amentia	1	Fistula ani	1
Epilepsia	2	Ascites	2
Convulsio	5	Physconia	1
Ophthalmia acuta et chronica	60	Nephralgia	3
Cataracta incipens	1	Dysuria	5
Otalgia	2	Varicocele	1
Odontalgia	2	Menorrhagia	5
Ulcera faucium	4	Leucorrhœa	3
Ranula	1	Abortus	3
Aphthæ	2	Chlorosis	5
Cynanche tonsillaris	16	Scirrhus uteri	1
——— trachealis	3	Prolapsus uteri	1
——— laryngea	1	Rheumatismus	43
Catarrhus	152	Hemiplegia	3
Pneumonia	18	Paraplegia	1
Pleurodyne	12	Paralysis partialis	1
Hæmoptysis	3	Scrofula glandul. conglobat.	3
Phthisis incipiens	14	——— articulorum	7
——— confirmata	6	Hydrops articuli	1
Asthma	9	Caries	4
Hydrothorax	6	——— vertebrarum	
Pertussis	24	Rachitis	2
Palpitatio	6	Syphilis	1
Angina pectoris	1	Pseudo-syphilis	3
Hepatitis acuta	1	Ulcus	24
——— chronica	6	Phlegmon	29
Icterus	1	Mastodynia	9
——— infantum	6	Paronychia	5
Dyspepsia	52	Erysipelas	2
Hypochondriasis	8	——— phlegmonodes	1
Hysteria	9	Erythema	2
Hæmatemesis	1	——— nodosum	1
Pyrosis	3	Pernio	2
Colica	7	Variola	7

	No. of Cases.		No. of Cases.
Varicella	3	Porrigo	28
Urticaria	3	——— decalvans	1
Strophulus	2	Psora	31
Lichen	8	Herpes	14
——— urticatus	2	——— phlyctenode	1
Prurigo	5	Acne	2
Lepra	4	Nævus	1
Psoriasis	4	Eruptiones variæ	5
Ichthyosis	1	Fractura	3
Roseola	2	——— costæ cum emphys.	1
Purpura	1	Vulnus	4
Impetigo	7	Ustio	19
——— figurata	2	Contusio et subluxatio	30

The winter has been chiefly remarkable for the frequent and sudden alternations of hard frost (accompanied with snow, and cold piercing winds), and moist mild weather; of which changes there have been five between the middle of November and the middle of February.

The number of inflammatory affections, particularly of the chest, has, in consequence, been very considerable. In infants and young children, since the beginning of December, catarrh has been unusually prevalent, and attended with much fever, and hurried laborious breathing, and occasionally, as far as could be judged, with acute pain of breast. The pulse was generally very quick and sharp, the countenance pale and anxious. Forty-seven of the cases of catarrh in the foregoing enumeration were of this description. In one case, of a child of seven months, which proved fatal, decisive marks of inflammation of the pleura and lungs were found on dissection, particularly recent adhesions of the pleura costalis and pulmonalis, and effusion into small portions of the substance of the lungs, increasing the density of these portions to such a degree as to cause them to sink in water. In another fatal case, of a child of eighteen months, in which the cough had continued for several weeks, with irregular fever, and progressive emaciation; the left lung was found adhering to the pleura costalis; numerous tubercles were dispersed through its substance, and a collection of pus was found in its upper and back part, inclosed in a sort of cyst, of caseous consistence, and considerable thickness.

The early and sometimes repeated application of leeches to the breast, followed by blisters, appeared to be the most successful practice in this formidable disease among infants. In the slighter cases, purgatives and warm bathing, with or even without blistering, gave effectual relief.

The greater part of the cases of continued fever were manifestly produced by contagion, and fourteen of them proceeded from a single individual, who had apparently brought the contagion with him from Glasgow (in which neighbourhood we have understood that typhus has for some time past been more prevalent than on the eastern side of the island) into a situation in the Old Town, exceedingly favourable to its propagation.

In one populous part of the town, we observed variola and varicella to prevail together, in October last; and, as for some time the varicella appeared to be confined to children who had been vaccinated, the appearances might have been regarded by some as favouring the idea that the contagion of small-pox may occasionally produce a modified disease in persons who have previously undergone vaccination. By watching the progress of the eruption, however, it was always easy to distinguish the two diseases; and, in one case, a child who had certainly never had either cow-pox or small-pox was observed to take well marked chicken-pox from one of the cases, which, those who entertain that idea, might have considered as doubtful. This child was afterwards vaccinated, and went through the disease in the regular way. In another case, in a different part of the town, the eruption of varicella appeared on the fifth day after vaccination; and both diseases went through the usual course.

With the view of arresting the progress of the small-pox, we vaccinated several children lying along with others affected with the disease. One of these was in the fifth, and another in the sixth day of the eruption. In the former case, the areola formed was not very distinct, but in both the small-pox was prevented.

The subject of cynanche laryngea having, of late, engaged much attention, it may be worth while to state the circumstances of a case of this kind which occurred, though the symptoms were neither so severe nor so obstinate as in most cases described under that head. The subject of the disease was a woman, aged 42, of feeble habit, and labouring under many privations. She had very severe dyspnœa, performing inspiration slowly, with a laborious effort, and a wheezing noise, and expiration with a louder crowing sound. She could with difficulty get breath to speak, and spoke generally in a whisper, which was sometimes involuntarily changed into a peculiar hoarse tone. She complained of much pain in the situation of the larynx, and of painful and difficult deglutition. No tumour was to be seen in the fauces. She had a hard cough, with a strong croupy sound, and scanty and difficult expectoration, which gave some relief to the pain and dyspnœa. Her face was somewhat flushed, and eyes prominent. Her pulse was about 100, and small; tongue whitish; bowels costive; skin hardly hotter than natural. Her complaints had begun by exposure to cold and wet ten days before; but had been much aggravated within two days by the same cause. A large blister was applied to the breast, extending up to the larynx. She was directed to take a dose of jalap and calomel immediately, and after its operation to use the pediluvium, and an antimonial diaphoretic mixture. Next day, her dyspnœa was considerably relieved, and she expectorated pretty freely. The blister and purgative had operated well, and she had had nausea, but no sweating. The symptoms having become more severe in about 24 hours after, two smaller blisters were applied at the sides of the larynx; after the operation of which, the pain, dyspnœa, and difficult deglutition, were much relieved. The febrile symptoms continued some days without much pain of breast, or oppression of breathing, and gradually subsided under the use of diaphoretics, and occasional laxatives; and she got rid of the cough and hoarseness in about three weeks more.

The case of purpura resembled that kind described under the name of the Purpura urticans. It occurred in a lad of 17, a shoemaker, whose diet had been meagre, and who had been accustomed to work in a cold and damp room. The eruption, which had the form of small hard purple-coloured papulæ, intermixed with petechiæ, occupied the ankles, knees, buttocks, and elbows, and was attended by œdema of the ankles, swelling of the knees and elbows, and considerable pain and stiffness of these joints. The excavated skin of an abscess which had formen on the parietes of the thorax, and had discharged itself about three weeks before, had assumed a dark purple colour, and the discharge, from being purulent, had become a bloody sanies. This affection appeared suddenly, four days before he came under our care, having been preceded by distinct rigor and febrile symptoms. When we first saw this patient, he had much debility, and his countenance was extremely sallow and expressive of languor. His pulse was 84; skin cool; tongue clean; and appetite tolerable. His gums appeared healthy, and he had had no hæmorrhage, but slight attacks of epistaxis afterwards occurred.

Two purgatives on the following days produced free evacuations of fetid fœces, and the swelling and pain of the joints abated; but immediately after their operation, severe pain, with fulness and hardness of the abdomen, supervened; the pain was aggravated by pressure, and was accompanied by vomiting, hiccough, quick and full pulse, and dry foul tongue. These symptoms were relieved by a bleeding to 12 ounces, but recurred after two days in an increased degree, and required three additional bleedings, each to 14 ounces, and the application of two blisters, before they were completely subdued. He bore the bleedings well, and was each time after the operation relieved in every respect. The coagulum was firm, and covered by a buffy coat of considerable thickness. About the 9th day of the eruption, small hard black scales, apparently of dried blood, had begun to form under the cuticle, in the places of the papulæ. These soon fell off, and this process gradually went on in all the spots till the 24th day, when the eruption had entirely disappeared. The colour of the integuments in the abscess in the chest, and the appearances of the discharge, began to improve soon after the first bleeding, and after a week, during which the subsequent bleedings were employed, the skin had regained its natural appearance, and the discharge had become healthy. After this, the sore rapidly contracted and healed under the usual means. The bowels were not obstructed, but during the whole progress of the complaint were irregular, and required to be kept open by purgatives. The patient was long of regaining his strength, and his recovery was much retarded by a severe cough, which was brought on by the coldness of the house in which he lay.

In the midwifery department, out of fifty-two women who have applied for assistance, there have been delivered	39
Out of these the natural labours were - -	34
The preternatural - - - - -	2
The complex - - - -	3

Of the last, two were cases of twins, and one of hemorrhage from the implantation of the placenta over the os uteri.

It must be remarked, that the practice at this Dispensary cannot afford the means of ascertaining the average proportion of laborious, preternatural, or complex, to natural labours, as part of the plan of the institution is to give assistance to midwives in difficult cases.

Table of the various Species of Hernia which have occurred in the General Infirmary at Northampton, between August 1813, *and August* 1814; *also a Table of Fractures and Dislocations which have occurred in the same time.* Communicated by WILLIAM MONEY, House-Surgeon.

In-patients this year, 800.
Out-patients this year, 1575.

Of Bubonocele, or Inguinal Hernia.

The total number, 62

Of the right side in Men.		Of the left side in Men.	
Entero-Epiplocele	11	Entero-Epiplocele	7
Enterocele -	24	Enterocele -	10
Epiplocele -	2	Epiplocele -	1
Continued the application of a truss, although no hernia appeared,	4		
Total	41	Total	18

Of the right side in Women.		Of the left side in Women.	
Enterocele -	2	Enterocele -	1

Of Oscheocele (Scrotal and Labia Pudendorum.)

No case of Labia Pudendorum.

The total number 66.

Right side.		Left side.	
Entero-Epiplocele	30	Entero-Epiplocele	22
Enterocele -	5	Enterocele -	5
Epiplocele -	3	Epiplocele -	1
Total	38	Total	28

Of Femoral.

Total number 12.

Of the right side in Men.		Of the left side in Men.	
Entero-Epiplocele -	3	Entero-Epiplocele	1
Enterocele -	1		
Epiplocele -	1		
Total	5		

Of the right side in Women.		Of the left side in Women.
Entero Epiplocele -	5	None.
Epiplocele -	1	
Total	6	

Of Umbilical.

Total number 3.

Of which were Women	2
———— Men	1

Of Congenital.

Total Number -	6
Of which were right side -	5
———— left side - -	1

Of Prolapsus Uteri.

Total number 3.

Of herniæ appearing at situations not reducible to the foregoing tables.

Total number 5, as follows:

1*st.*—Richard Brookes, ætat. 65; at the external edge of the musculus rectus abdominalis, on the left side, near to the inferior linea transversalis. Contents; intestine.

2*d.*—David Stern, ætat. 80; left side; direct through the external ring.

3*d.*—Ann Croxen, ætat. 42; right side; protrudes under that part of Poupart's ligament, within two inches from the anterior superior spinous process of the ilium; the hernia passes from this point across the thigh, and terminates at the inside of the limb. The contents are intestine and omentum; a portion of the latter adheres.

4th.—William Billing, ætat. 54; right side; four years ago the hernia was strangulated, for which he underwent the operation. He has since constantly worn a truss, but the hernia does not appear.

5th.—William Wallis, ætat. 55; right side; the external abdominal ring communicates directly with the cavity of the abdomen, as well as by means of the internal abdominal ring, so that one portion of the hernia comes direct from the abdomen to the external ring, whilst the other takes the usual course through the internal ring; the contents intestine and omentum, principally the latter. A truss constructed with a pad, corresponding with each opening retains the hernia.

Total Number.

Bubonocele	62
Scrotal	66
Femoral	12
Umbilical	3
Congenital	6
Prolapsus Uteri	3
Situations not reducible to the foregoing table	5
	157

Seven of the above cases were strangulated, one of which was femoral in a female; the remaining six were scrotal. The operation for strangulated hernia has not been performed during the period which this table includes.

Total Number of Fractures and Dislocations, 52.

FRACTURES.	No.	FRACTURES.	No.
Radius	11	Ribs	3
Ulna	0	Compound fracture	1
Radius and Ulna	4		
Femur	3	Numbers of fractures	45
Tibia	5		
Fibula	1	DISLOCATIONS.	No.
Tibia and Fibula	7	At the elbow	3
Clavicle	4	Head of the humerus	2
Humerus	2	Lower extremity, tibia	1
Coracoid process	2	First phalanx, thumb	1
Metacarpal bone	1		
Metatarsal bone	1	Number of dislocations	7

Extract from a Letter of DR RODMAN, *Paisley, in reply to the "Observations on Premature Births,"* p. 126.

IT is a rule with many men to be slow in giving heed to the sceptical statements of anonymous writers. But this rule is liable to exceptions. The honourable character your Journal sustains, is a guarantee that the anonymous observations admitted into it, proceed from that spirit of wisdom by which the benefit of society is promoted. In p. 126 of your last Number, the objections of your correspondent display the benevolent dispositions and candour of the writer. It is highly proper, therefore, to attempt giving the information, and to renew the inquiry, which your correspondent desires.

And as several authors who give the size and weight of the fœtus at different periods, are inconsistent in their statements, it is necessary, in the first place, to consider the marks afforded on this subject by the catamenial discharge, since these inconsistencies must arise from some mistake.

When the periodical appearance of this discharge returns during the influence of healthy functions, the proof that the uterus is not impregnated is satisfactory; and when the health is good, the stoppage of this discharge is a strong proof of pregnancy.

Along with turgescent feelings in the mammae, and sensations of a nature peculiar to the pregnant state, the stoppage alluded to is the only mark on which mothers can rely. Hence, if a medical man be not consulted till two, three, or more months have elapsed, it is obvious that he has no other grounds by which to discover the exact term of gestation in such instances, but what he derives from the mother's history, her assertions, her appearance, and her former habits of exactness. On this account it is easy to understand how an accoucheur may be sometimes deceived, and how the tables of fœtal dimensions may often be erroneous.

With respect to the mother of the child in question, she is tall, robust, and healthy, and was never subject to those irregular affections which derange such calculations; and besides, her knowledge of the time of her former gestations was particularly accurate. At every new interrogation she is consistent, and modestly evasive, though her reasons are decisive; and she does not hesitate to affirm, that the period of gestation already mentioned was rather within the 19 weeks, as has been stated.

But there are other occurrences which tend to corroborate what she affirms.

Every accoucheur must have observed that the weight and length of children born at the full time are variable; but especially the weight. On looking into my journal of newly born children come to the full time, I find it stated that one child weighed fifteen pounds, while the weight of others was irregularly less. In whatever way it may be explained, this variation of weight is undeniable; and it is no stretch of propriety perhaps to grant, that according to the constitution, circumstances, and health of the mother, one fœtus at a given period differs proportionally from another fœtus at the same period.

If it be probable that a tall, robust, and healthy female, in the vigour of life, shall have children of greater dimensions and weight, than one who is little, delicate, and unhealthy, it is equally probable that statements should contain the characteristic descriptions of the mothers before they be accounted conclusive in their proportions of the fœtus. By allowing that such statements are defective in this respect, the defects will be excusable: and the knowledge of the mother, whose opinion is the point at issue, will be admissible.

My motive in making her son's case known, was a wish to check those unqualified assertions which are too commonly heard, that a child born at certain premature periods cannot live; such as at the sixth month, &c. And if professional men encourage this opinion, what can be expected from those that are not of the profession?

Assertions of this nature have undoubtedly led to the death of premature infants in many instances. They seem not only to be useless, but to supersede the exertions which might save the children; and become grounds of excuse for heedless treatment, by which they are exposed to destruction. Death would have been the speedy fate of this child in the same way, had I not opposed this assertion at his birth, and by insisting that it was possible he might live, prompted the activity of all the necessary attentions.

The necessity of allowing no improper delay in these circumstances is obvious. But although I measured him at birth, and thought his length within eleven inches, I was not satisfied with its accuracy. His safety, then, was more important than the indulgence of curiosity; and there was no time, with safety in view, for accurate measurement. If his length was eleven inches at that time, he must have grown two inches longer the first three weeks.

I have a slender patient who has been long unhealthy. She has born eleven children, and the last seven were premature births. The first of the seven was born about the eighth month, and lived nine weeks; the second was born rather earlier, and died in the woman's hands while she was washing it; the third lived eight hours, the fourth eight days, and the fifth fourteen days. I find it mentioned in my Journal that the mother reckoned herself six months and two weeks gone of this child, who was a female, and whose length was seventeen inches. The sixth lived a week, and the seventh died in the birth. Now it is necessary to state, although they were all born during cold weather, that the children who lived longest were those on whom the greatest care was bestowed; and in each instance it was affirmed to be impossible that any of them could live.

The little gentleman who has given rise to these remarks is still healthy. He became fretful three weeks ago, and would not sleep, but cried for two nights. The same cotton wool which covered his head had been too long used—new wool was put into its place and he soon got drowsy—since which he has sleeped at the usual times—his crying has ceased, and he has continued well.

Paisley, January 12, 1816.

CLASSIFICATION OF DISEASES,

By David Hosack, M. D. Professor of the Theory and Practice of Physic and Clinical Medicine in the University of New-York. Communicated by Dr Francis.

CLASS I.—FEBRES.

Ord. I.—INTERMITTENTES.

1. Quodiana.
2. Tertiana.
3. Quartana.

Ord. II.—REMITTENTES.

4. Remittens.

Ord. III.—CONTINUÆ.

5. Synocha.
6. Typhus vel Synochus.
7. Dysenteria.
8. Pestis Orientalis.
9. Pestis Occidentalis, vel Tropicus.

CLASS II.—PHLEGMASIÆ.

10. Phlogosis.
11. Phrenitis.
12. Ophthalmia.
13. Otitis.
14. Odontitis.
15. Catarrhus.
16. Cynanche Tonsillaris.
17. Cynanche Maligna.
18. Cynanche Trachealis.
19. Cynanche Parotidœa.
20. Mastitis.
21. Pertussis.
22. Pneumonia.
23. Phthisis Pulmonalis.
24. Carditis.
25. Diaphragmitis.
26. Peritonitis.
27. Gastritis.
28. Enteritis.
29. Hepatitis.
30. Splenitis.
31. Nephritis.
32. Cystitis.
33. Urethritis.
34. Hysteritis.
35. Phlegmasia dolens
36. Rheumatismus.
37. Arthritis.
38. Arthropuosis.
39. Hydarthrus.
40. Periostitis.

CLASS III.—CUTANEI.

(In this Class Dr Willan's arrangement of cutaneous diseases is adopted.)

CLASS IV.—PROFLUVIA.

Ord. I.—HÆMORRHAGIÆ.

79. Epistaxis.
80. Hæmoptysis.
81. Hæmatemesis.
82. Hepatirrhœa.
83. Hæmaturia.
84. Hæmorrhois.
85. Menorrhagia.

Ord. II.—APOCENOSES.

86. Ephidrosis.
87. Epiphora.
88. Otirrhœa.
89. Ptyalismus.
90. Galactirrhœa.
91. Cholera.
92. Diarrhœa.
93. Diabetes.
94. Enuresis.
95. Leucorrhœa.
96. Gonorrhœa.

CLASS V.—SUPPRESSIONES.

97. Icterus.
98. Obstipatio.
99. Ischuria.
100. Dysuria.
101. Dyspermatismus.
102. Amenorrhœa.
103. Dysmenorrhœa.
104. Suppressio mensium.
105. Dyslochia.
106. Agalactia.

CLASS VI.—NEUROSES.

Ord. I.—PARALYSES.

107. Asphyxia.
108. Apoplexia.
109. Paralysis.
110. Amaurosis.
111. Dysopia.
112. Pseudoblepsis.
113. Strabismus.
114. Dysecœa.
115. Paracusis.
116. Anosmia.
117. Agheustia.
118. Aphonia.
119. Paraphonia.
120. Psellismus.
121. Dysphagia.
122. Anæsthesia.

Ord. I.—ADYNAMIÆ

123. Syncope.
124. Dyspepsia.
125. Pyrosis.
126. Bulimia.
127. Satyriasis.
128. Nymphomania.
129. Anaphrodisia.

Ord. III.—SPASMI.

a. *In functionibus Animalibus*,
130. Tetanus.
131. Trismus.
132. Neuralgia.
133. Convulsio.
134. Chorea.
135. Epilepsia.

b. *In functionibus Vitalibus*.
136. Angina Pectoris.
137. Asthma.

c. *In functionibus Naturalibus*.
138. Colica.
139. Nephralgia.
140. Hysteralgia.
141. Hysteria.
142. Hydrophobia.

Ord. IV.—VESANIÆ.

143. Amentia.
144. Melancholia.
145. Hypochondriasis.
146. Mania.
147. Oneirodynia.

CLASS VII.—CACHEXIÆ.

Ord. I.—INTUMESCENTIÆ.

a. *Adiposæ*.
148. Polysarcia.

b. *Flatuosæ*.

155. Hydrothorax.
156. Hydrops Pericardii.
157. Ascites.

149. Pneumatosis.
150. Tympanites.
151. Physometra.

c. *Aquosæ.*

152. Anasarca.
153. Hydrocephalus.
154. Hydrorachitis.
158. Hydrops Ovarii.
159. Hydrometra.
160. Hydrocele.
161. Hydrops Articuli.

d. *Solidæ.*

162 Physconia.

ORD. II.—VITIA.

163. Rachitis.
164. Mollities Ossium.
165. Lithiasis.
166. Scrofula.
167. Syphilis.
168. Sibbens.
169. Laanda Africana.
170. Scorbutus.
171. Plica Polonica.

CLASS VIII.—LOCALES.

ORD. I.—TUMORES.

172. Aneurisma.
173. Fungus Hæmatodes.
174. Varix.
175. Ecchymoma.
176. Scirrhus.
177. Carcinoma.
178. Bronchocele.
179. Sarcoma.
180. Polypus.
181. Lupia.
182. Ganglion.
183. Exostosis.

ORD. II.—ECTOPIÆ.

184. Hernia.
185. Prolapsus.
186. Luxatio.

ORD. III.—DIALYSES.

187. Vulnus.
188. Ulcus.

ORD. IV.—DEFORMITATES.

In a few days will be published, in one octavo volume, an Account of a Visit to London, in the year 1814; wherein is exhibited a comparative View of English and French Surgery; together with some Observations on the London Hospitals. Translated from the French of J. P. Roux, Professor of Anatomy and Surgery at Paris.

Nearly ready for publication, the Second Part of Orfila's System of Animal, Mineral, and Vegetable Poisons. This will complete the First Volume of the work. The two remaining parts will appear in the course of the ensuing spring.

Just ready for publication, in one duodecimo volume, Cullen's Practice of Physic in Fevers, Inflammations, &c.; with all the Discoveries made since his time by the most eminent Practitioners in Medicine.

⁂ Communications have been received from Dr Briggs, Liverpool, Machaon; Mr Barlow, Blackburn, Lancashire; Mr Allan, Mr Crawford, &c. The Reviews of Mr Hodgson on Diseased Arteries, and of Dr Ainslie's Materia Medica of Hindoostan, will appear in our next Number.

No. XLVII. will be Published on the 1st of July 1816.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JULY 1816.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on the Utility of Blood-letting as the principal Remedy in Continued Fever; with some Cases of an Epidemic, in which it was practised with uniform and remarkable success. By JOHN ALLAN, Surgeon, Royal Navy.

A strong impression in favour of the practice which is the subject of these observations, was first made on my mind by observing its beneficial effects in a few cases of sporadic fever, and was greatly confirmed last year, when I had an opportunity of witnessing its efficacy in the yellow-fever of the West Indies. The result of this practice in my hands, with the opinions to which its success unavoidably led, was submitted to the public in the Edinburgh Medical and Surgical Journal for July last, when I not only declared my belief in the necessity, and my confidence in the efficacy, of that simple mode of treating the yellow-fever, but even ventured to express a hope that it would soon be found not only admissible and safe, but the most effectual and successful practice in the common continued fevers of Britain.

The paper containing my observations on this subject had scarce quitted my hands, when some cases appeared on board his Majesty's ship Erne, to which I then belonged, of a continued fever, that afterwards became so prevalent, as to present me with many opportunities of realizing my preconceived hopes of the utility of extensive blood-letting in fevers of European origin. We had above twenty severe cases in a crew somewhat under 130 men, within about three months, in all of which the success of that practice was conspicuous and uniform. My own recent experience was strengthened, on this occasion, by the knowledge I had endeavoured to reap from more than one perusal of Dr Burnett's excellent treatise on the Mediterranean Fever, a publication which, wherever it succeeds in introducing a fair imitation of his enlightened practice, will undoubtedly do more good than any that this hackneyed subject has lately produced.

I was thus prepared to undertake the treatment of the late epidemic on board the Erne with some confidence in the use of extensive blood-letting, a confidence which happily has not been deceived; and, in offering the result of this practice to the public notice, I may indulge the hope, that, whatever may be thought of my reasonings, the cases cannot but be useful. They may assist some to decide who still hesitate about the propriety of such practice, or may procure some attention to a system of treating fever which the bias of education has hitherto prevented from obtaining due consideration.

At the time that the disease which gave occasion for these remarks made its appearance, the ship had been about three weeks in Portsmouth harbour, and we afterwards remained there about five, that is, altogether, from the middle of April to the beginning of June last; during which period a certain number of the men were daily on shore on leave, an indulgence attended, as usual among sailors, with various excesses, especially frequent intoxication. It was, however, in very few instances, that the disease took place immediately after the application of these causes; for, though a few cases did occur early in the month of May, while we remained in the harbour, the greatest number, and some who had the most severe attacks, were not taken ill till several weeks after we had left that situation; and, indeed, we were scarcely without one or more cases of fever on the sick list till after the middle of August. The disease, therefore, must have owed its origin to some other cause besides the temporary irregularities just alluded to; and marsh miasmata, the most frequent cause of uncontagious fevers, appear, in this instance, to have been no less active than usual. Our ship was so situated, during the time I have mentioned, as to be within forty or fifty yards of the extensive slimy mud-banks on the Gosport side of Portsmouth harbour, which are continually uncovered at low water, and from which, when the sun's rays were not interrupted by clouds, one might sometimes perceive exhalations rising in the form of a whitish vapour.

But, besides the obvious and unavoidable opportunities thus frequently presented for the application of this generally active cause, there was, in the nature and character of the epidemic, something that evinced its origin from such a source. In several cases it manifested a distinct and decided tendency to assume the type of an intermittent, and, although the paroxysms were never regularly completed in all their stages, yet the occasional, and somewhat regular, recurrence of cold fits often summoned my attention, and gave reason to apprehend the formation of a regular remittent or intermittent, as the issue of the cases. Had such symptoms led to a relaxation in the use of the lancet, or had the cure been chiefly confided to bark, or to any other remedy, I cannot help believing that such must, in some cases, have been the result. I do not mean to say that bark was wholly useless, or without good effect; on the contrary, it will appear to have been administered, in some of the following cases, with decided advantage; but the disease was in general so speedily cut short by the bleeding, as to leave the strength of the system very little impaired, and to render quite unnecessary the use of any tonic whatever.

The lancet was used as freely in this disease as it usually is in the yellow-fever, and sometimes most extensively, on account of other unmitigated symptoms, when the pulse was both frequent and feeble, and when other apparent signs of extreme debility were no less conspicuous; in short, (I wish it to be particularly remarked), when circumstances, commonly supposed to forbid its use, were certainly not wanting.

CASE I.

SAMUEL DIBBINS, private marine, ætate 18, of a slender make. I found him, on Monday 8th May 1815, at five P. M. lying in bed, affected with shivering and drowsiness, approaching to coma, unwilling to be disturbed, and complaining of general uneasiness, without particular pain. His respiration was laborious, with frequent deep sighing; his pulse 102 and small, and his skin very dry and hot. He had just returned from the shore, where he had been taken ill the preceding day, his complaint beginning with headach and vomiting. He had used no medicine.

He was immediately bled to twenty-five ounces, and then took a large dose of calomel and jalap, which caused some vomiting at first, but was soon followed by several loose stools.

At 7 P. M. he was found to have lost a considerable quantity of blood in bed, but the symptoms had not abated. Fourteen ounces of blood were drawn from the same orifice, and then he took three grains of the pulvis antimonialis.

During the night he dosed a good deal, but perspired none at all; and, at 7 o'clock next morning, he was distressed with extreme languor and prostration of strength, and with such an insupportable feeling of fainting and vertigo, that he could neither bear to sit, nor to be held in a sitting posture. His skin was excessively hot and dry, his tongue tremulous and moist, red at the point, but loaded near the root with a white fur. He complained of pain in his stomach and head, especially about the eye-balls; his thirst was very urgent, and his pulse 92 and small.

While he lay in a horizontal posture, apparently scarce sensible of what was going on, twenty-eight ounces of blood were drawn from his arm, which caused, at first, a convulsive sobbing, and, at length, actual syncope. As soon as he recovered he took twenty grains of jalap.

About 10 A. M. I attended him to Haslar hospital, when this young man, who, three hours before, could not bear to raise his head from the pillow, not only sat up in the boat, but, leaning on the arm of a seaman, walked from the landing-place, about a quarter of a mile, to his ward, and declared himself not at all fatigued by the exertion.

He was, in fact, from the above day, a decided convalescent; and, after ten or twelve days more, returned to the ship in perfect health. The striking resemblance, in the practice and result of this case, strongly recalled to my remembrance that of John Hogg, published in this Journal for July last, who was landed by me in May 1811, at the same hospital, under very similar circumstances, and whose case was one of the first in which I witnessed the powers of extensive blood-letting in cutting short continued fever.

CASE II.

JOHN JEFFRIES, private marine, ætate 28, complained, on Monday 31st July 1815, of headach and giddiness, with occasional rigors, and profuse perspirations. His tongue was white and ragged; his skin moist, and rather hot; his eyes red and watery; and his pulse 100, but so small and feeble as to be counted with difficulty. He had had three loose stools by a dose of calomel and jalap, which he had taken on the approach of these symptoms, at 8 o'clock the preceding night.

In this state thirty-two ounces of blood were taken from his arm; he took half an ounce of sulphate of magnesia, and was ordered two drachms of the aqua acetitis ammoniæ every two hours, in a draught.

Soon after the bleeding his pulse became full and soft, and fell to 80 in quickness; during the day he had several loose stools, and, at six o'clock in the evening, appeared free from all complaint.

August 1.—He was directed to use spare diet; the sulphate of magnesia was repeated in the morning; and he took, at bedtime, two grains of submuriate of mercury with the same quantity of pulvis antimonialis.

He slept tolerably well in the early part of the night, but, towards morning, became hot and restless, vomited a quantity of green bilious matter, and was affected with languor, vertigo, and headach. At 8 A. M. his pulse was 100, and very small; his eyes red and watery, and his tongue white and moist.

He was bled to twenty-five ounces, then took five grains of calomel, and was ordered an effervescing * draught every two hours, composed with carbonate of magnesia instead of subcarbonate of potass.

He soon had a stool, and then the vomiting ceased. At one P. M. his pulse was 100, and fuller than in the morning, and he perspired profusely; yet the headach and vertigo continued unabated. The bleeding was repeated to thirty ounces.

By 6 P. M. he had another stool; his pulse was 96, and soft, and his head much better, but the giddiness as before.

He had no stool in the night, and, next morning, the giddiness continued; his pulse being 92, and soft. Eight ounces of blood were taken from the right temporal artery. He took five grains of calomel, with fifteen of jalap; and, afterwards, half an ounce of Epsom salts every four hours. At six that evening, though his bowels had been freely purged, the vertigo continued.

On the morning of the 4th, it still distressed him, and was attended with vomiting; his pulse was 92, rather sharp, but ex-

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* This draught, which I believe not to be in common use, may be prepared with distilled, or even common vinegar; but, when to be had, lemon-juice is to be preferred, and ought to be employed rather in excess, so as to produce a supercitrate of magnesia, which is exceedingly well adapted for quenching thirst, and allaying vomiting, while its cathartic powers seem more to be depended on than those of the citrate of potass.

tremely small: his tongue moist, and nearly clean; his skin cool and soft. He was bled to fourteen ounces, which he bore well; then he took two grains of calomel and an effervescing draught of magnesia, which medicines were both repeated after three hours.

At 6 P. M. he told me that all his complaints had left him soon after the bleeding; his countenance was cheerful; his pulse natural, and tongue clean. His bowels required the aid of some laxative medicine once or twice afterwards; and he was detained, against his inclination, on the sick-list till the 13th of the month, when he returned to his duty in perfect health, fourteen days after his first attack.

CASE III.

JOHN MACKINNON, seaman, ætate 19, was affected, on Friday 23d June 1815, with headach, giddiness, and general pains His tongue was covered with a white fur; his pulse small and firm. He said that he had been unwell for several days before, that his appetite was not affected, and that his bowels were regular.

Fully forty ounces of blood were taken from his arm without the smallest appearance of syncope; but, in a few minutes after his arm was bound up, he was seized with convulsions, during which the blood gushed with violence from the wound, while the pulse at the wrist was remarkably strong and full. As soon as the fit was over, he took five grains of calomel, with fifteen of jalap, and, in an hour more, an ounce of sulphate of magnesia. At 4 P. M. he was much better; but, having had no stool, he took eight grains of calomel, with twenty of jalap.

He had two stools in the night; and, next morning, the 24th, his tongue had almost the appearance of health, and his head, though rather light, was free from pain. His diet was restricted; and, at 6 P. M. his first dose of calomel and jalap was repeated. On the 25th he took a scruple of pulvis rhei. On the 26th he had no complaint, but his tongue was pale. His first dose of calomel and jalap was again repeated.

On the 27th I permitted him to return to his duty, a step that afterwards gave me great concern; for he was seized, that night, with severe headach and vertigo, attended with nausea and shivering.

He did not complain to me, however, till next morning, the 28th, when his pulse was full and quick, and his skin very hot. A vein in his arm was immediately opened, but he became faint on losing eighteen ounces of blood. When sufficiently recovered, he took six grains of calomel, with eighteen of jalap. At

1 P. M. on opening a vein, only sixteen ounces of blood could be procured, on account of syncope.

At 6 P. M. he was less sensible of pain, but was extremely languid and distressed with the giddiness; his pulse was 130, small, and, when pressed slightly by the finger, was not to be distinguished without great difficulty. Though his bowels had been freely purged, his tongue was much furred.

After some deliberation, I resolved to bleed him once more. By the time I had drawn away twenty ounces, his pulse had fallen to 100, and it fell, in another hour, to 92, yet the vertigo continued, though without pain. At 8 P. M. he took two grains of calomel, with five of the pulvis antimonialis. At 11 at night he was in a sound calm sleep, his skin covered with a warm perspiration, and his pulse full, soft, and very little accelerated.

On the morning of the 29th, he still complained of slight giddiness; his tongue was moist, but covered with a slight yellow fur; his gums were gently affected by the calomel, and his pulse was 92, and very small. Having had no stool in the night, he took half an ounce of sulphate of magnesia.

On the 30th, he had no complaint remaining; but, on account of the state of his bowels, always inclined to costiveness, he took twenty grains of rhubarb.

July 1st and 2d.—He took small doses of Epsom salts; but, on the evening of the latter day, he suffered a return of pyrexia; his pulse being 84, and full. He then took six grains of calomel.

On the 3d, he complained of griping; his pulse was quick and small; his tongue covered with a yellow fur. He took half an ounce of tincture of rhubarb, with twelve drops of tincture of opium, in a draught. At 6 P. M. the symptoms not being at all relieved, and the stools, though loose, being small in quantity, he took the following draught floating in half a wine glassful of water.

℞ Tinct. opii gtt. xx.
——— rhei ℈ij.
Ol ricini ʒvi. M. ft. haust. statim sumend.

He enjoyed a good night, and was free from pyrexia the next day, though his tongue continued slightly furred.

After this period, his bowels required several smart purgatives, and he had several threatenings of the invasion of an intermittent. On the 6th, 9th, 13th, and 20th, he had attacks of shivering, but no regular paroxysm was completed on either day. On the 5th, he began taking two ounces of infusum quassiæ twice a day. On the 8th, he began taking a drachm of cinchona four times a-day, and five grains of the pilula hydrargyri every night, which last medicine was continued, with apparent benefit, till the 17th. On the 20th, he took fifteen drops of diluted sulphuric acid four times a-day, with the bark, which medicines were both continued daily till the 25th, when he returned to his duty perfectly cured; and, at the end of August, when the ship was put out of commission, he had every appearance of vigorous health.

These cases appear to me of considerable importance, as they demonstrate that those rules, by which restrictions are laid on the use of the lancet, on account of certain conditions of the pulse, or because languor, prostration of strength, or inability to sit up, seem to indicate a dangerous degree of what has been considered *direct debility*, may not only be sometimes violated with perfect safety, but that they ought to be disregarded, whenever we have reason to believe, that those outward signs of weakness are only sympathetic of the oppressed state of the organs essential to life, more especially the brain, which seems always to be the case, when such symptoms of extreme debility present themselves at the commencement of continued fever. Mackinnon's case seems useful, besides, as it shews the beneficial effect of cinchona after quassia had failed, when the disease threatened to assume the intermittent form, and as it made me sensible, by the relapse which took place, of the serious imprudence I had committed in granting leave to the patient to return to his work, before his health had been sufficiently re-established after his first attack.

Besides those symptoms of fever usually considered as signs of debility sufficient to interdict the use of blood-letting, there are objections, or rather prejudices, against that mode of treating fever, derived from the particular habits and circumstances of the patient, which, I suspect, have hitherto generally possessed an undue influence in practice. The success of blood-letting among robust, well fed seamen, cannot, it is said, justify its application among the debilitated and poor inhabitants of cities; but I have sometimes had occasion to employ extensive blood-letting, for the cure of continued fever, in circumstances where, perhaps, more of the ordinary objections against that practice were combined, than is usually the case, even among the inhabitants of the most confined situations in towns; yet the benefit received from it, in such cases, was no less conspicuous than in more healthy subjects, and the facility with which it was borne was generally still more surprising.

I have seen this exemplified in men of feeble and debilitated appearance, natives of London, or of the confined dirty streets of some of the sea-port towns, whose having been a few months at sea, and fed on salted provisions, could not have much improved their originally unwholesome constitutions. A native of Plymouth, of a diminutive stature, and pale complexion, who had been at times affected with chronic bowel-complaints, being attacked with the yellow-fever, was more surprised than I to find that he had to be bled four or five times, from fourteen to twenty-four ounces each time, declaring, that he had never before escaped a fit of syncope, if he happened to draw blood even by the slightest wound of his finger. He bore the bleeding well, and was cured of the fever; but being soon afterwards affected with his old complaint, which assumed, at length, the appearance of chronic dysentery, he was sent from Bermuda to England. He was, nevertheless, in six months afterwards, in as good health as he ever enjoyed in his life.

The same practice has also been employed in persons of a different description, but who could, no more than the last, be termed strong, robust, or healthy; for every contrary epithet would have been more justly applied to men long accustomed to a sea life, wasted by habitual intemperance, and reduced to a state of great irritability and weakness, the effect of recent intoxication and debauchery. I have never seen any bad effect from liberal bleeding in such subjects, but, on the contrary, successful and speedy cures were regularly the consequence. The subject of the following case was a slender little man, whose whole body, I am persuaded, could not have weighed above 135 pounds, yet, on losing about two pounds of blood, his recovery was so rapid, that, from being in a state of actual delirium, he was able to resume his usual duty as a seaman on the sixth day; and, during three months that the ship continued afterwards in commission, he enjoyed a rather better than his usual state of health.

CASE IV.

ROBERT MASTERS, ætate 29, seaman, was suddenly attacked, on Sunday 11th June 1815, in the forenoon, with cold shivering, vomiting of bilious matter, and occasional incoherency of language. He was affected with headach and vertigo, which he had felt, in a slighter degree, together with want of appetite and general disorder, for several days before. His skin was hot and dry; his pulse 80 and small; his tongue dry and furred; and his belly was said to be regular. He had not been on shore for nearly a week, and had attended muster about an hour before.

On losing above thirty ounces of blood, he was seized with syncope, and, when he recovered, with much incoherent raving. As soon as he was placed in bed, he took ten grains of calomel, with twenty of jalap. At the end of two hours, he took an ounce of Epsom salts, which, after another hour, was partly rejected by vomiting. At 8 P. M. he was bathed in a profuse warm perspiration, felt perfectly easy, and his mind was tranquil; but, having had no stool, he took six grains of calomel.

He had one large stool in the night, and next morning was free from all complaint, his pulse being 60 and regular, and his skin of natural temperature. That day, and the two following, the purging was kept up by medicine, and, on the 16th, he returned to his duty, in better health than, by his own feelings, he had enjoyed for many months.

The subjects of the two following cases were both habitually accustomed to drinking. Page, in particular, had indulged in debauchery, of more kinds than one, for some time before he was taken ill. He was rather short, of a thin make, and had the appearance of a person whose constitution had suffered from habits of excess. His whole weight could not have exceeded 145 pounds; yet it will appear, that 76 ounces of blood were, of necessity, abstracted from him, and with the greatest advantage, within the short space of four hours.

Case V.

Thomas Page, sergeant of marines, ætate 33, was reported to be ill on Sunday 13th August, at 4 P. M., when he was found breathing laboriously, with a dry burning skin; a red swollen face and eyes; a small quick and sharp pulse; parched and greatly furred tongue; and, as well as he could speak, complaining of headach, and of universal pains. On preparing to bleed him, he was found to have entirely lost the power of moving the right arm. He had, in the forenoon, attended the muster of the marines: but his messmates said that he had hardly eaten any thing for two days.

In my absence, the assistant-surgeon very judiciously took thirty-six ounces of blood from his arm, and then gave him six grains of calomel with twenty of jalap. At 7 in the evening, he repeated the bleeding to twenty ounces, and the medicine as before.

A little before 8 o'clock, I saw the patient literally panting for breath, with his skin of a burning heat; his pulse 100, regular, and full; and he had partly recovered the use of his arm. His medicine had had no effect.

In a horizontal posture, with his head rather raised, I drew away twenty ounces of blood from his arm. Before I had completed the operation, his body was bedewed with a warm perspiration. After some convulsive sobbing, his respiration was completely relieved; and, in a few minutes after his arm was bound up, his pulse was 76, and continued full and regular. He complained of thirst, and was supplied plentifully with barley-water.

He was sent to Plymouth hospital early next forenoon; but, at that time, though he had had no stool, he was nearly free from uneasiness. His respiration was perfectly natural; his skin dry, but not hot; his pulse 80, and soft; and the power of using his arm quite restored. He took, early in the morning, an ounce of Epsom salts.

As we quitted Plymouth almost the same day, I must regret that I have had no convenient opportunity of rendering the case complete, by relating its final result; but, from the improved state in which I left him, after conveying him more than a mile from the ship, and from experience in similar cases, I have every reason to believe that nothing more was wanting to render him a decided convalescent than the free evacuation of his bowels,—an event that probably took place within a few hours.

CASE VI.

WILLIAM MACKENDRICK, private marine, ætate 32, complained, on Sunday 6th August 1815, of headach, giddiness, and sickness. His eyes were red; his tongue moist, but tremulous, and much furred; his skin hot; his pulse quick and full; and his hands and lips affected with nervous agitations. He had come on board the preceding day from Plymouth, where he had staid several days indulging in intoxication.

He was bled to thirty-five ounces; took five grains of calomel with fifteen of jalap, and was furnished with plenty of barley-water. By 6 P. M. he had had several stools, and was much better. His tongue had become steady, and nearly clean. He took an effervescing draught of magnesia. The same medicine was likewise repeated next morning and evening.

On the 8th, he complained of general uneasiness and shivering, with cold perspirations. His bowels were loose; his pulse quick and full; and his tongue white and moist.

He was bled to thirty ounces, and had an effervescing draught, as before, three times a-day. The bleeding almost immediately relieved all his complaints; and, by the evening, he was free from every uneasy feeling.

On the 12th, feeling some slight return of shivering, he took a drachm of cinchona, with fifteen drops of diluted sulphuric acid, three or four times a-day; which medicines were repeated daily till the 15th, when he returned to duty quite well.

The subjects of the two following cases, as well as those of the three first, were young men, of rather sober habits, and will readily be admitted as fair specimens of common uncontagious fever.

CASE VII.

WILLIAM HARTSHORN, seaman, ætate 20, who had undergone an attack of the yellow-fever at Jamaica in November last year, complained, on Friday 18th June 1815, of sickness, pain in his loins, and cold shivering; which symptoms had come on the preceding evening.

He took six grains of calomel, with three times the quantity of jalap. At 6 P. M. he fainted on losing eighteen ounces of blood. He afterwards took two grains of calomel, with six grains of pulvis antimonialis.

On the 17th he was better, and the medicines were both repeated. On the morning of the 18th he had no complaint of consequence, and took a scruple of rhubarb; but, at 3 P. M., he was distressed with headach, vertigo, vomiting, and thirst, which had gradually come on.

Twenty-eight ounces of blood were immediately taken from his arm, with striking relief; and the antimonial was repeated at bed-time.

His bowels afterwards required several pretty strong purgative medicines, especially some doses of calomel; and he had two or three slight shivering fits, for which he took half an ounce of bark daily; and, on the 28th of the month, he resumed his usual duty, perfectly cured.

CASE VIII.

ROBERT SAYER, seaman, ætate 24, complained, on Monday 26th June 1815, of headach, giddiness, and general uneasiness, which had begun the preceding night, with shivering and nausea. His tongue was slightly furred; bowels regular; skin hot; pulse 80, and full.

On attempting to bleed him, he was seized with a fit of shivering, so that not more than six ounces could be procured. He then took seven grains of calomel, with twenty of jalap. At 3 P. M. a vein was again opened, when the approach of syncope prevented more than sixteen ounces being abstracted. At 5, having experienced no relief, eighteen ounces of blood were taken away without much difficulty; and, at 7, he took five grains of calomel.

He had only one loose stool that evening; and, on the 27th, complained of severe pain across the epigastric region. His dose of jalap and calomel was repeated; and, at bed-time, he took four grains of calomel.

On the 28th, he had no complaint remaining. On the 29th, he took a strong purgative, and, without any other medicine, he resumed his usual duty, on the 2d of July, in perfect health.

It is unnecessary to load this paper with more cases, as they were all treated on the same principles. Those who were ill, when we were near an hospital, had the advantage of being sent there; but the disease generally had previously received such a check, that they were either actual convalescents at the time, or became so immediately after being received; so that scarce one was above a fortnight, some not more than ten days, at the hospitals; and those who were entirely cured on board recovered equally well.

The success of the treatment employed on the present occasion, which consisted almost solely of bleeding and purging, seems a decisive proof of the inflammatory nature of the disease; and it is useful to shew, that a continued fever may be of that character, and may absolutely require that treatment, though externally marked by such feebleness of the pulse, and by such languor and prostration of strength, as, according to many systematic books, ought to be considered inconsistent with such measures. I formerly found it necessary, in defiance of all such rules, to adopt the same practice in the yellow-fever; and, having witnessed its indispensable necessity and great utility then, as well as in the fever which gave occasion for the present observations, I should consider myself much to blame if I neglected the first opportunity of extending a cautious trial of the same practice to the most malignant of contagious fevers. Convinced, from experience, that the yellow-fever is not contagious, I cannot say that I have seen any fever of that nature since I was capable of forming a judgment for myself; and cannot help feeling some of that awe which the descriptions of them are apt to inspire; but, without pretending to say that contagious fevers ought to be universally treated upon the same principles as those which have a different origin, I may look forward, with what, I trust, are well founded hopes of success, to the result of the trials I have mentioned; and I believe, that that debility must be frightful indeed that shall deter me from making so justifiable an attempt.

Without entering into any refined theory about the peculiar modifications of the inflammation undeniably existing in various organs of the body during fever, I go upon the broad and tangible principle, that the commencement of continued fever affects, with inflammation, some of the organs essential to life. Dissections continually prove this to be the case in every part of the world; and the immediate violence of vascular action, or its effects, are always admitted to be the cause of the most dreadful symptoms, and even of death, in fever. Every consideration ought, therefore, to yield to the means of subduing it at its very commencement, while in its active stage, and before organic changes of structure have begun. Then is the time for employing blood-letting to advantage, when a judicious use of it may almost ensure, in a few hours, a successful result to our labours, while the neglect or delay of that practice beyond the proper period, may leave to us weeks of painful anxiety, and to our patient, if he survive at all, months of debility and helplessness.

October 1st, 1815.

II.

Case of Mortification of the Appendix Vermiformis Cæci, occasioned by a Human Tooth found in its Cavity. By WILLIAM BRIGGS, M. D. Liverpool.

G. E. D. Esq. æt. 42, corpulent, and of the leucophlegmatic temperament, had for several weeks laboured under a severe cold, but had not been wholly confined by it; and on Saturday 7th January 1815, he had walked from his house to his office, a distance of three-fourths of a mile, and back again, and had transacted business for some hours. On the Sunday morning, about seven o'clock, he sent for his family surgeon, Mr Bickersteth, and complained of having had grinding pains in his belly during the greater part of the night, for which he had taken a dose of ol. ricini, which had operated, but had not removed the pain. Mr B. states, that "at that time the pulse was quiet, and the pain by no means urgent, so that he merely ordered calomel gr. iv. and a draught of infusum sennæ with magnes. sulphas; that when he called in the evening, the physic had operated with rather more relief than the oil; that, in fact, so slight was the pain, and so little was the patient apprehensive of danger, that, on that same evening, he wrote notes of invitation to several of his friends to dine with him on the next Tuesday. But Mr B. finding the pulse at 120, and hard, took about ℥xx. of blood from a large orifice, with great relief."

Monday, 9th, half-past 6 A. M. I was called to him for the first time. He had had a severe rigor between 5 and 6, which lasted about ten minutes, but, when I arrived, he was in a copious perspiration. Pulse 136 and small. The blood taken on the preceding evening had a thick buffy coat, with uncommonly large floating masses of albumen, but the crassamentum was tender; he had vomited some yellow bile. On pressing strongly on every part of the abdomen, I found neither tension nor soreness till I came to the right iliac region, where there was manifestly a circumscribed tenderness; but still the pain was so inconsiderable, that any person, judging from this symptom alone, would hardly have suspected any serious mischief. Indeed, I remarked to Mr B. that, though there could be no doubt of the existence of peritoneal inflammation, yet, both from the absence of more acute symptoms, and from the remarkable expression of atony in the countenance, it had more the character of puerperal fever, than of peritonitis in a male subject in the prime of life. But the practice to be adopted was evident. Mr B. immediately took from the former orifice near 30 ounces of blood, which had the same appearance as that drawn the night before. We remained with our patient till nine; he was languid after the bleeding, but did not faint; and though the pulse did not abate in frequency, or improve in strength so decidedly as we had hoped it might, yet there was no return of the pain, rigor, or vomiting, and we left him in a copious perspiration, with directions to take repeated small doses of ol. ricini or magnesia.

We saw him again at 1 P. M. when he felt generally better; the pain had not returned; he had perspired freely; the stools, though very scanty, were feculent, of good colour, and tolerable consistence; the pulse was more distinct, and did not exceed 120; once, when it was counted by Mr B., it did not amount to more than 114. We advised him to continue taking the oil.

On calling again at 7 P. M. we were grieved to find him in every respect worse; he had had no stool; the skin was dry; the pains had returned, shooting across the abdomen, and there was soreness over the whole hypogastrium; the pulse was again at 136, and small; and on our proposing another bleeding, he immediately replied, that, " from his own feelings, he had guessed we should think it necessary." Accordingly, Mr B. once more tried the same orifice, but not altogether with the same success; it was much contracted, and the stream grew gradually smaller till it ceased, before the patient either complained of faintness, or was sensible of any relief. The quantity thus drawn might amount to 14 ounces, but, from the slow manner in which it had flowed, its quality could not be so precisely ascertained, though it had obviously the same general character as before. We then retired for a short time, to consider what ought to be done next. Neither of us felt disposed to advise the making of a fresh orifice at that moment; we determined rather to watch the symptoms very closely, and, in the first place, to try a large blister and a full dose of calomel, with some other purgative.

But while Mr B. was writing the prescription, and I was conversing with the patient, he complained of such an increase of pain, as led both of us to believe that nothing but the farther abstraction of blood could arrest the progress of the mischief, and that it would be fatal loss of time to await the issue of any other expedient. We therefore proposed that a vein should be opened in the other arm, to which Mr D. objected, chiefly, if not altogether, on the ground that the *operation was more difficult* in the left arm, and he was afraid lest an artery should be wounded; but on being assured by Mr B. that he could bleed in the left arm as easily as in the right, he consented. When about 16 ounces of blood had thus been drawn from a large orifice, *the pain ceased;* and we ventured to assure the patient, that at length we had reached the cause; but, alas! we were soon to be undeceived, and to discover how far beyond all human reach the fatal cause was seated. Nothing like syncope occurred; neither did the languor appear, for the first half-hour, greater than that from which he had recovered after the bleeding in the morning, or, indeed, than that which very commonly follows such copious bleedings as are found necessary, when any important viscus is inflamed, and without which being induced, it rarely happens that extensive inward inflammation can be subdued. In fact, so little was there *then* to alarm either of us, that Mr B. went to visit another patient in the neighbourhood, it having been previously agreed, that I should stay till he returned, when we were to settle what was to be done farther.

But during his absence I had begun to take the alarm, from observing that the pulse became less and less distinct, and the extremities less and less warm, while there was no deliquium to account for such symptoms, but, on the contrary, the patient was in full possession of his faculties; and from the sound of his voice and cough, it might have been supposed that he was in his ordinary health. Under this impression, I had begun to administer small quantities of wine whey and spt. ammoniæ aromaticus; yet still the prognostic was so far uncertain, that when Mr B. returned, after an absence of not more than half an hour, and I communicated my apprehensions to him, not only did he not immediately enter into them, but, for a moment, I was myself inclined to hope that they were groundless. It was, however, only for a moment. We soon saw too clearly, that cordials of various kinds, and of increased strength, and warmth externally applied with the utmost diligence, produced but mere transient effects on the pulse and temperature. The patient complained more and more of coldness and oppression, and about half past eleven at night he sunk without a struggle.

Examination of the body, performed by Mr Bickersteth, in the presence of Drs Maccartney, Bostock, and myself, about 20 hours after death.

On dividing the skin, the cellular membrane was found very much loaded with fat; near the umbilicus it was fully two inches thick. The omentum was also very fat, and extended low down. The quantity of fat surrounding the kidneys was very great; and there were besides many distinct masses of fat attached to the different viscera.

The omentum was in a state of *high inflammation*, more particularly at its edges, and under side. The *whole tract* of the small intestines was inflamed, but especially the *ileum*. In some parts the vessels were highly injected, and in others there were *marbled* spots of considerable size.

On tracing the ileum to its termination in the cæcum, the appendix vermiformis was found *enlarged* in all its dimensions to at least three times its natural size, and it was nearly *black*. Its coats were much thickened, but so tender that it *burst* at its extremity on being gently pressed, and a *sanious fluid* issued from it. A *solid body* was felt within it, near its origin, which moved freely backwards and forwards under the finger.

On opening the appendix, its inner surface was *gangrenous*. The solid body contained in it proved to be a *human tooth*, the root of which had become soft, and was easily separated into strata, on being scraped with the end of the scalpel. The enamel was perfect, and, when the tooth was thrown into water, it gave the same smart sound against the basin, that a tooth recently extracted would have done.

The cæcum was very much enlarged.

The liver, stomach, spleen, lungs, and heart, were all natural, except that there was some slight inflammation in that part of the liver which is contiguous to the colon, and that there was a large quantity of fat about the diaphragm, mediastinum, and heart.

P. S. Since the above statement was written, my attention has been directed to a case in the London Medical and Physical Journal for this present month (February 1816), where mortification was occasioned by a *chocolate-nut*, lodged in the entrance of the appendix vermiformis. To this case, as resembling the one just detailed in many important particulars, I would beg leave to refer my readers. If they will be at the trouble to compare the dates, it will probably strike them as singular enough that two such cases should have occurred so nearly at the same time. In the one, no history could be traced as to the length of time that the nut had been swallowed, farther than that the patient " *had experienced a similar affection of his bowels about a year before.*" So also in the other, after the cause had been ascertained by dissection, several of Mr D.'s friends could recollect that, at times, for a year or more, he had, when walking, been obliged to stop short by a sudden attack of pain in the right iliac region, which, however, soon went off, and no farther notice was taken of it by himself or others. None of his own family ever heard of his having swallowed a tooth. One gentleman, indeed, who had been his intimate from a very early age, *thinks* he recollects something of the kind having been told him by Mr D., when they were at school together, but he does not speak positively; and my friend Mr Perry, the dentist, to whom I shewed the tooth, says it *must have belonged to the second set*, for it is one of the upper bicuspides teeth, which do not exist in the infant set. Mr P. authorizes me to say, " that he cannot believe it to have been one of Mr D.'s own teeth, but that it must have been swallowed, as any other moderately sized substance is liable to be, in his food." And, to shew how very possible this is, he states, " that, the week immediately before Mr D.'s death, a well known individual in Liverpool happened to cut down upon a human tooth, in a *hot roll* which he was going to eat at breakfast." He farther says, that " he had been in the habit of examining Mr D.'s teeth, and that they were more free from decay or disease of any kind, than is general perhaps; that he had lost one or two, which he thinks were molares, but that, to the best of his recollection, the bicuspides were all in their places, and sound; that the tooth in question had more the appearance of having belonged to a *female;* that it had a covering of what is called tartar, which occupied the natural cavity betwixt the points of the grinding surface, obliterating them as points; that this extended on one side about two-thirds of the length of the fang, indicating, as he infers, that it was lost by this accumulation, and a gradual retiring of the alveolar process, as is usual in advanced age; but he will not take upon him to say, that the tooth may not have acquired its covering while it was lodged in the intestine or appendix."

Liverpool, February 6, 1816.

III.

Fatal Case of Intestinal Disease, with the Appearance on Dissection. By George Nesse Hill, Surgeon, Chester.

Condescend once more to indulge an old correspondent, by inserting at your convenience the subsequent faithful detail of a fatal case of intestinal disease.

Minute histories of the rise, progress, and termination of ambiguous attacks on human health and life, where, when it has come to a close, dissection is permitted, form so many beacons of the most friendly nature to mankind, and highly serviceable to the reflecting and attentive class of medical practitioners.

In the spring of 1813, I was desired to visit the unmarried daughter of a lady in this city, who had been many years suffering from an hemorrhagic affection of the bowels. She appeared about thirty-four years of age, tall, thin, fair complexioned, with a tint of sallowness in the countenance; had from childhood been prone to constipation, and what is called "delicacy of constitution;" difficult menstruation, with intense headach, and in the intervals what is fashionably termed "a bilous stomach, with much *nervousness*."

Nearly seven years ago this great sufferer first observed occasional small discharges of blood *per anum*, of a dark colour, clotted, unmingled with feces or mucus, and passing off without pain or tenesmus. She had no hæmorrhoids, nor had ever been accustomed to the use of stronger purgatives than a small aloetic pill, or a little Epsom salts.

The alvine hemorrhage continued much the same for a year and a half, during which period no medical assistance was sought for; because a very intimate female friend, in secret confidence, assured my patient, that such a state was very common to the sex, and not to be regarded. Soon after this advice, each sanguine evacuation was preceded by obscure pain in the left hypochondrium, gliding across the abdomen just below the umbilicus, also an occasional sense of throbbing just within the rectum; and now when blood was about to be discharged, it came off with a sudden irresistible impulse, without tenesmus, but more frequently than before the accession of pain, generally five or six times in every twenty-four hours, giving the inside of the receiving vessels a sprinkled appearance, evidently formed of arterial fluid, whilst the coagula at the bottom were dark-coloured. At the end of two years and a half, the pain had increased, extending now to the inside of the hips down the sacrum, and often very severe in the coccyx.

Coughing, sneezing, bending the body forwards, stooping, or any *sudden* motion, always induced severe pain, however easy before; sitting up in bed had a similar effect; change of posture, especially to lying on the left side, generally, though not always, procured ease. When pain was great, with augmented hemorrhage, pyrexia, with a degree of dyspnœa, came on, and the pain was greatest after the discharge. The sufferer's appetite, spirits, and general appearance, were still good, and for short intervals the recited symptoms would entirely disappear; which vaccillation encouraged the fallacious hope, that all would ultimately be well again.

At the end of three years, some medical gentlemen were consulted, to obtain relief for the bilious headach, constipation, hemorrhage, and "*nervousness*," with the presence of ascarides. Cathartics, particularly calomel, were given in large doses, followed by tonics, wine, and blisters; which plan, although it relieved all the other symptoms, greatly aggravated the sufferings in the rectum, especially whilst liquid feces were passing, which gave the sensation of "spirits applied to a raw place." The action of calomel never failed to induce this feeling, also great debility, mental languor, cold sweats, trembling of the knees, and the addition of great quantities of mucous stuff after each discharge of blood. Under these circumstances, a removal to Liverpool for the benefit of sea air, and the advice of some eminent medical men, was deemed prudent; residence on the beach, a liberal use of cinchona, zinci sulphas, nutritious diet, and port wine, was recommended. The bark disagreeing, the iron mixture, and after that the tinct. ferr. mur. were substituted; but, in defiance of the most rigid adherence to this plan, the hemorrhage continued unabated, except for a fortnight in seven months, during which short suspension her spirits and strength were much recruited, though pain was still present. This change, with the nausea excited by the medicines, induced her to suspend their use. Soon afterwards, a new symptom was discovered, viz. that solid feces came off with great difficulty, of diminished size, and a triangular shape, scanty in quantity, of a dark-green colour, with a sense of desire to evacuate more. Calomel, Epsom salts, and castor-oil, forced off some scybala, but the calomel occasioned its usual distress;—the oil agreed best. A surgeon being consulted, examined the rectum, but could not discover any thing wrong in the state of that bowel. On the return of the hemorrhage, the physician directed injections of Dec. cinchon. cum zinci sulphate; externally fom. cicutæ. The injections were immediately rejected, if more than ℥v. in quantity, or containing more than gr. v. of zinc. When small in quantity and mild, they were commonly retained all night, and generally absorbed before morning.

The stools now not only contained more or less of blood, but also a quantity of slips of a substance like white of egg. In addition to these matters, there was in most of them a table spoonful or two of a fluid resembling bad pus, with bloody points here and there, and of a highly fetid odour. This fluid often came off alone, except with a sudden burst of flatus, and irresistible inclination to evacuate, giving a sensation of passing through a narrow place.

She had no sensations of burning, no lancinating pains, but a dull aching below the navel, which stooping much, walking, or any fatigue, increased,—rest and a horizontal posture relieved. This pain would come on without inducing the throbbing in the rectum, or the uneasiness about the hips and coccyx. None of these pains were relieved by the evacuation of any of the matters described. Such was the state in which I found my patient. Being permitted to examine the rectum, I found it free from hæmorrhoids, glandular enlargements, or stricture within reach; but between two and three inches up, in a line with the coccyx, there was a hard resisting substance, which I could press, but not move. Below it was a large artery, beating with a very tense feel, constituting the throbbing, of which she complained. Here was also the seat of the cutting pain, resembling brandy applied to a raw place, occurring after aperients, especially calomel. This swelling seemed to account for the difficulty in throwing up an injection; for unless the point of the pipe was directed towards the abdomen, scarce any liquid would pass into the bowel. Of this fact, the feelings of the patient soon convinced her; hence, as soon as the pipe was passed through the verge of the anus, she was accustomed to seize it herself, and give it the necessary direction; when about ℥vi. of any liquid, if mild, would pass, and be readily retained. This state of the parts I ascertained, by injecting, at bed-time, that quantity of decoct. digitalis, made from ℥ss. of yellow leaves of the plant near a year old; about ℥i. was lost in the operation. After four hours sleep, she awoke with severe nausea; in four more, harassing vomiting commenced. On my arrival early the following morning, I found my patient labouring under the effects of an over-dose of the digitalis; pulsation at the temples forty strokes *per* minute; the action of vomiting produced no aggravation of former pains. A columbo mixture, with small doses of opium, and a blister over the stomach, afforded relief in about forty-eight hours. During this period of time, the pulse was frequently as low as thirty strokes *per* minute, and when the sickness was gone off, intermitted for near a fortnight. There was no alvine evacuation for two days after the injection; then a scanty one of the triangular shape, and a dark green colour, without blood or mucus; but in a few more days, similar stools were accompanied with clots of dark-coloured blood, a sprinkling of bright-red, and a copious portion of mucous matter, inodorous, resembling fine pulpy cellular membrane. In a short time after, the creamy fetid fluid, having small granules like suet, and clots of bright blood intermingled, reappeared, but it was frequently absent for days together, whilst the blood, and the stringy soft mucus, were rarely absent, the latter being in masses the size of a large walnut, preserving a globular form at the bottom of the receiver.

My patient had in youth been subject to soft glandular swellings, and a prominent throat. I directed the mur. calc., an electuary composed of columbo, soda, rhab. et bals. Copaib.; the latter to be taken so as to procure a soft alvine evacuation daily, which purpose it answered, in very moderate doses, without griping, or any added uneasiness in the rectum. Occasionally *these* stools (always triangular shaped) were mixed with dark green scybala of a round form, and long clots of dark blood, but no mucus or fetid stuff, all evacuations leaving a sensation in the bowel as though there was something left behind,—liquid feces, mucus, or blood coming off with an irresistible burst, whilst solid feces were evacuated slowly, with pain and difficulty. April 24th.—I directed a perpetual blister to be laid over the inferior part of the sacrum, reaching nearly to the verge of the anus. In a short time afterwards the inward throbbing abated, and the teasing pain in the coccyx, which latter never returned. On a re-examination of the rectum, whilst the patient was in a sitting posture, and directed to bear down, the swelling on the posterior part of the bowel was very perceptible. It did not feel like a firm stationary tumour, and the great variety in the form of the feces appeared to confirm this opinion. This examination gave pain, and, subsequently, it often happened, that the injection-pipe was stopped in every direction by something which would not permit a liquid to pass; at other times, little or no impediment presented, unless the instrument was directed up the sacrum. The pain in and about the pelvis occurring during menstruation, is very distinct from that attending the bowel affection, and the former distress was greatly mitigated by the effervescing mixture with camphor, and small doses of tinct. opii, with the occasional use of the hip-bath. During the first three weeks of June, the bloody and mucous discharges wholly ceased. To the copaiba medicine has lately been added the bitter infusion, as a vehicle for the muriate of lime, and small doses of ferr. præcip. cum opio at bed-time. For the obstruction in the rectum, a common candle, of the size of twelve to the pound, could generally be introduced beyond the obstructing body, and remain without uneasiness all night. On being withdrawn unbroken it had taken the shape of a male catheter. When passed slowly, and at short intervals, this operation gave no pain, which she was strictly cautioned never to excite. On withdrawing the wick of the candle in a morning, a stool usually followed with the tallow, both masses distinct and of a triangular form. I tried a bougie of similar dimensions with the candle, but, though as gently introduced as possible, it would not mould to the part like the latter, but gave great pain, as though piercing the bowel; she occasionally tried and succeeded in passing one herself, just beyond the obstructed part, which took 4½ inches; thus far it lay easy. The dull aching pain just below the navel is nearly constant, but does not occupy a larger space than may be covered by the palm of the hand, occasionally darting into both hips, but most into the right. Opium, given in a quantity near a full dose, does not mitigate this pain, whilst it distracts the head, and hurts the appetite; opiate injections, with starch and copaiba, answer best, whilst blisters above the pubes added to the relief obtained.

July 7th.—The patient requested to have a caustic issue placed on each side of the upper part of the sacrum, which was done. On their discharging freely, the various pains went off, the stools became less frequent, well figured, more capacious in size, of a dark-green colour, and passed with ease; the bloody and mucous discharges ceased, and it might now be truly said, "The most curious part of the history of this severe organic disease, is the occasional temporary suspension of the symptoms, while the morbid structure still subsists."

August 28th.—A little dark blood descended before the feces, and after these a sprinkle of bright-red; a few days after, the fetid mucus reappeared, but less in quantity; little pain preceded this change. The candle, or a bougie, could easily be passed, and remain up all night; on being withdrawn, a copious evacuation of healthy sized feces followed, without the sensation of more wanting to come off. In the evening, especially after sitting up for a few hours, they were the size of a goose quill, ribbon or triangular shaped; and now the sensation of insufficient evacuation is present, with occasional soreness, tension, and return of the transverse pain of the abdomen; the fulness worse after eating, be the quantity taken ever so moderate,—hence she refrains from gratifying a good appetite. Mild aperients and diuretics relieve these symptoms. There has been no pain requiring opiates for many weeks; but now, September 10th, a smart attack beneath the umbilicus and in the hips demands them. The caustic issues run freely, each admitting six peas; but great irritation arises from a fiery eruption surrounding them. Pain, hemorrhagic and mucous discharges again nearly subsided, but there is considerable uneasiness after any evacuation, whether small and mucous, or large and fecal.

September 30th.—Tenesmus, for the first time, became sudden and severe, the evacuations small, flat, mucous, and bloody, giving the feeling of great bulk, when not more than a table spoonful, always coming off with a burst; the horizontal posture the only one easy. The candle is continued with ease and apparent utility. The medicines heretofore used were suspended to try the effect of well-prepared charcoal; no difference arose from this experiment. When tenesmus is urgent, the patient says she is convinced that the swelling is come lower down than it was, and that it is the sole cause of all her suffering. Examination confirmed the opinion of its being somewhat lower and much more tender to the touch. The throbbing artery was not now perceptible, nor could I discover any enlarged glands or hæmorrhoidal tumours. The verge of the anus was swollen and tender; distressing fulness and soreness of the left hypogastric region, aggravated by lying on that side; coughing, sneezing, sudden motion, and the erect posture, aggravate it. The feces are now (October 25th) of a natural size, dark-green colour, and unless when soft give no pain on being discharged. Evacuations of dark-clotted and bright-red liquid blood, with an impetuous burst, are frequent, and in a quarter of an hour after each, pain in the course of the colon is much augmented. The hip-bath relieves every uneasy feeling for a time, but induces a sense of weakness. The countenance is become very sallow, with occasional purple flushes. She now takes the nitric acid in the bitter infusion during the day, and at night carbonate of iron, with small doses of opium. The caustic issues look unhealthy, fungous, and glassy,—have only a small bean in each. The candle has been discontinued a month, the stools being well formed, passing easily, and no tenesmus existing but previous to the exit of blood or mucus, which is increased in frequency.

November 20th.—Appetite diminished; accession of fever, with burning sweats or clammy chills; alvine evacuations again increasing, becoming again pus-like, fetid, and granulated, and although often small in quantity, yet giving the sensation of a great load having been parted with, but not half come away. Anodyne injections afforded no relief, being speedily ejected, however bland their composition, or small their quantity. The hip-bath and saline antimonial medicines having apparently abated fever, the sufferer returned to the use of the acid and bitters, with a columbo mixture, of which she had a high opinion; aperients are unnecessary. December 1st.—An external hemorrhoid appeared, which being very troublesome, but easy of removal, I cut it away, and this step afforded much relief. The old transverse pain coming down the left side now requires opii pur. gr. iv. in the course of a day and night to render it endurable, yet occasionally is so much better as to require none for several days together. Menstruation severely painful the 10th of this month, with bilious sickness, and diarrhœa of light frothy greasy stools, alternating with dark, bloody, fetid, and mucous ones, coming off with a sensation as if vinegar was rushing over a sore; dyspepsia, every portion of food soon followed by alvine discharge, and then faintness; issues dried away.

December 21st.—Violent pain around the verge of the anus came on abruptly, without tumefaction, hardness, or a blush of inflammation discoverable. This exquisite suffering commenced like an electric shock, always referred to the anus, darting up the bowels to the head, thence exciting most tremendous twitchings over the whole body, the tendons at the wrists playing like the wires of some machine; indescribable restlessness when the spasms remitted. Occasional dyspnoea. Tenesmus never accompanies fecal evacuation (which continues the same), but is severe when a small sanguineous one is to come off. Emaciation is evident, with increase of sallowness, and irregularities of temperature; appetite much diminished, and sleep prevented by the spasms; for when fatigue or opium induce a tendency to repose, the spasmodic attack is doubly violent as sleep approaches, preceded by violent pain, always referred to the verge of the anus. Leeches, cold lotions, fomentation, and cataplasms, all failed in abating this misery; in fact, the mildest application was not endurable; the hip-bath continued to soothe, but the exertion necessary to its use could seldom be borne. Musk, camphor, opium, and æther, occasionally afforded a little mitigation of the spasms, the latter most. Two new small hæmorrhoidal tumours suddenly appeared, which became so exquisitely tender as to make even the approach of the bed-linen a source of fearful apprehension; leeching eased them for an hour, but no longer. I removed them, but the spasms continued as obstinate as before, originating at the anus. Still its sphincter manifested no tumefaction or inflammation. The stools, now always copious, dark-brown, fetid, and containing black granules like gunpowder, occasionally intermixed with dark green scybala. The infusion of cusparia, with columbo and opium, appeared serviceable; the pulse was very feeble and intermitting; thirst intense; occasional delirium; tongue brown; skin hot and dry, unless when the whole body was shaken by the spasms; then a cold clamminess supervened; there was rarely any blood voided; never any membranous or creamy mucus. 1814, January 8th.—Spasms continue dreadful; particularly severe on the approach of sleep, when the shock is tremendous; exhaustion and opium combine to induce a short-lived torpor, which sometimes takes place, while her limbs are firmly held by attendants. The left parotid swelled suddenly, and became extremely tender. The appetite for some time has been nearly gone; emaciation is rapid; all the former old pains are as it were absorbed in that of the lower part of the rectum, which sometimes darts towards the pubes. There are now pus-like evacuations, with points of bright-red blood coming off once in two or three hours; feces once only in two or three days, of the usual calibre, dark colour, and highly fetid. January 14th.—Spasms considerably abated, but not gone off; pain intolerable, with a pushing fulness at the posterior part of the anus. This protrusion consisted of two lips, with a middle fissure. With the greatest caution and extreme slowness, I passed a probe through this aperture. The instrument discovered a cavernous hollow, admitting three parts of its length before it met with resistance; and when it did, its point gave her no pain. It took the direction of the tumour in the bowel. Pus-like stuff, mingled with clots of bright blood and feces, descended through this aperture. The anus began to lose its retentive powers, but not pain. Unintermitting fever, and the thirst extreme. Extr. of hyoscyamus, combined with opium, gave more relief than any dose of the latter alone. The issues, which had been long closed, now reopened their surfaces, secreting a thick acrid sordes. The anus being at this juncture free from tumours, admitted the smallest sized pipe covered with suet, through which was slowly injected Gelat. amyl. ℥iv. Pulv. cinchon. ʒi. P. gum. opii gr. vi. This compound afforded some ease, but the abrupt appearance of a large hæmorrhoid soon banished its use. At this period, Dr Thackeray saw this lady, and thought the copaiba had better be tried again, with hyoscyamus. It was,—but the stomach rejecting it occasionally, and it appearing to increase the number of stools, it was laid aside, although this was not the fact; a miserable one had taken place,—she had wholly lost the power of retention, so that, when lifted into an upright posture, the contents of the pelvis ran off involuntarily, so far as related to mucus, blood, and feces; she then rendered the urine as in health. The large hæmorrhoid shot out a fungous point, which would not admit the touch of a feather. The pain in the anus is still intense; the scalding sensation continues; the spasms are nearly gone off.

January 31st.—Facies Hippocratica. In the evening I was desired to look at an evacuation which had rushed off suddenly. It was about a pint of dark clotted blood, with a few ounces of bright-red; fainting followed this loss; the pulse was imperceptible at the wrist. February 6th.—A second hemorrhagic flow was announced by a few bloody spots, resembling what is ejected after the extraction of a tooth, floating on a dark granulated and highly fetid stool. In a few hours it took place as before, followed by syncope and delirium. Some of the clots were of an oval shape, and firm fibrous texture; small ones were seen entangled in the breach between the anus and the coccyx. A sudden tumefaction, with inflammation, and great tenderness of the left labium, was discovered; spasms entirely removed. February 8th. —The tumefied labium burst, discharged pus, blood, and feces; delirium wholly abated. February 10th.—Some frothy spots of bright blood appeared on the fecal matters caught on the cloths placed under her. I mentioned my fears to her mother, that a farther hemorrhage was threatened. At four o'clock next morning this event took place, the blood pouring in great quantity from the anus and vagina. On my arrival, I found her very cold, and speechless. Warm flannels and æther revived her a little. Speech returned, and she still complained of pain at the anus and pubes. The catastrophe approached;—no pulsation could be perceived even in the neck; dyspnœa, with pain in the breast, supervened; the sense of load in the thorax she observed increased; the extremities were quite cold to the touch. Still her senses remained, which enabled her to take a most affectionate leave of her friends. At eleven o'clock she sunk gently into the arms of death, without a groan or a struggle.

Dissection.

Saturday, February 12th.—I examined the body in the presence of Dr Thackeray and Mr Bromfield, surgeon of this city. The abdomen was tensely swollen, all other parts of the body greatly emaciated. There was a copious flow of feces and dark-coloured fetid blood from the anus and vagina, which now appeared to form a common cavity, no perinæum being perceptible. On dividing the abdominal integuments, the quantity of intensely yellow fat which presented, was considerably greater than could have been expected; but the muscles were as pale as though they had been washed; the omentum was large, fat, and adherent to several of the intestines, dipping very low down into the pelvis, among the convolutions of the bowels, even under the cæcum. The liver was large, extending fully across the stomach, to the left side, so that but a very small portion of the latter viscus was *in situ*; the gall-bladder small in proportion to the liver, and containing not more than a tea-spoonful of pale bile; the ducts perfect; the whole liver sound, but pale; the stomach firm, empty, and very white; the pancreas and spleen as they are usually found in healthy subjects, except the latter being smaller than ordinary; the whole intestines distended with flatus and feces, and of a very pale hue; the cæcum occupied all the upper part of the pelvis. On tracing the duodenum jejunum and ileum down from the stomach, they were found but little altered from their usual state, excepting having a very pale appearance, and their *valvulæ conniventes* obliterated, or very small throughout. At the inferior portion of the ileum scybalous feces were found, and no regular valve; and just where the cæcum commences, a slight inflammatory blush was perceptible. The mucous glands were here large and pappy, the cæcum itself fully distended with hard and soft feces of a light brown colour, highly fetid. Upon elevating this bowel very gently, its contents issued through an aperture the dimensions of a shilling, its edges not ragged; but the inferior portion of this bowel was so thin and tender, that I was not quite satisfied it had not ruptured in the mere elevation; but as it had rested on a mass of putrid blood and feces in the pelvis, I am inclined to believe the weight of its contents had burst it. The inner surface of the gut was nearly as smooth as the outer, with here and there a dark bluish-coloured spot resembling a shrivelled fold of membrane; no valvular appearances; the appendix small and empty. The commencement of the colon small, and seemingly incapable of admitting the scybalous feces lodged in the cæcum to pass without some violent effort; yet it did not feel thickened or strictured.

The blood-vessels just here were more full than anywhere else, and this was one of the spots where the subject had complained of severe pain. The intestine was slightly adherent to the right kidney. On approaching the stomach, its capacity was greatly increased, but its parietes so tender, that, upon attempting to raise it with the greatest gentleness, it burst, and emitted a very large quantity of light brown coloured highly fetid soft feces, without scybala. On removing this huge load, the same bluish wrinkled folds appeared as before described in the cæcum. The whole descending colon was adherent to the subjacent parts, down to the sigmoid flexure; the left kidney much smaller than the right, and its ureter not to be traced. The colon everywhere yielded to the finger like a rotten membrane; its whole external surface studded with little masses of white fat resembling spermaceti. There was no appearance of valves or glands to be discerned, but innumerable livid eminences; the calibre of the whole bowel was greatly enlarged. The mesocolon lost all its firmness, and was become very white and thin; no enlargement of the mesenteric glands was discovered. At the sigmoid flexure of the colon, there was a complete breach, the dimensions of a penny-piece, through which blood and feces passed into the pelvis. The parietes of the intestine continued for about two inches, when it formed a ragged termination, so that the commencement of the rectum was but barely discoverable; from hence to the anus not a vestige was left. Upon passing a bougie through the opening behind the anus, another through that aperture, and a third into the vagina, they almost immediately met under the uterus. This organ having a very white appearance, and rather hard feel, lay upon the coccyx, which bone felt a little abraded. The ovaria were of the usual size, and as white as the eye of a boiled fish. The lateral ligament of the left side was destroyed, that on the right was much thicker and harder than common. The peritoneum covering the bladder was much thickened, and firmly adherent to the viscus, which was small; and at its posterior part found adhering as close to the upper surface of the neck of the uterus as its upper part was to the peritoneum. The blood-vessels everywhere connected with the examination were empty, and any muscular substance divided, pale, and flabby. The boney structure of the pelvis was narrow, although not ill-proportioned, excepting a little projection of the last lumbar vertebræ with the sacrum, forming a spinous edge, might be considered as of this description.

It may be proper to remind the reader, that the colon in every part of its course had been the seat of much suffering for near six years, particularly when stooping or bending the body, or from the agitation of sneezing or coughing, both of which the sufferer greatly dreaded.

Chester, May 1, 1816.

IV.

Observations on the Cure of Cancer of the Womb by Excision. By F. Bj. Osiander, Professor of Midwifery in the University of Göttingen. *

Cancer of the womb is one of the most dreadful evils which can afflict the female sex. More frequent in many places than is commonly believed, it commits greater devastations in an insidious but malignant manner, and does more harm than many other diseases,—and has seldom yielded to any external or internal remedies hitherto used.

The superintendence for many years of the Royal Clinical Hospital of Göttingen having given Professor Osiander frequent opportunities of examining and treating persons suffering under this disease, he, with the active assistance of the young physicians and surgeons who frequented his *clinicum*, employed, in many such cases, all the means, external and internal, which were known or imagined, in order to ascertain by what means, or by what mode of treatment, a stop could be put to the progress of this terrible disease; but he learned from experience the melancholy fact, that little else could be done with it than, in a few cases, to retard its progress, and render the sufferings of the patient more supportable; that is to say, the pain, the bleeding, and the bad smell;—to effect a cure seemed absolutely impossible. Long before he attempted any operation with the view of curing this disease, he conceived it might be possible to cure cancer of the womb by excision, in the way that has been long known and practised in the case of cancerous mammæ. The possibility of the success of this operation, he founded on the repeated and well known observation, that the inverted and prolapsed uterus has been sometimes cut off designedly by surgeons, and by midwives through ignorance, and yet the persons survived its excision. A woman still lives in the neighbourhood of Göttingen, from whom, 26 years ago, an old ignorant midwife cut, or rather sawed, off, with a bread knife, the uterus inverted and prolapsed after delivery. The late Professor Wrisberg at that time read the history of this woman before the Royal Society; and it is to be found in this Journal (Götting. gelehrte Anzeigen) for 1787, No. 81, p. 810. It likewise appeared in the 8th volume of the Commentat. Götting.

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* This paper was communicated by John Thomson, M. D. Professor of Military Surgery in the University of Edinburgh, at the request of the author. It was published in the Göttingische gelehrte Anzeigen so long ago as the 18th August 1808; but, when the subject is important, and the information new, the date of a communication is of no consequence, except as a historical fact.—*Editor.*

These observations induced Professor Osiander to propose, 15 years ago, in his lectures on the diseases of women, the bold measure of curing cancer of the uterus by extirpation; and he suggested various methods of doing so, and, among others, the very same which the late Dr Struve, one of his former pupils, and physician in Prenzlau, afterwards published as his own invention, in the 3d number of the 16th volume of Hufeland's Journal for Practical Medicine, in the year 1803, and against which Professor Osiander cautioned the public at the time. Professor Osiander, however, found the performance of this operation to be very different from what he had conceived, when at last, on the 5th of May 1801, an opportunity offered itself to perform it. The patient was a widow, whose situation was indeed as deplorable as could be imagined. The vagina was distended by a carcinomatous fungus of the orifice of the womb, as large as a child's head. It was extremely fetid, and bled very violently. The fungus was seized and brought low down in the vagina by means of Smellie's forceps; but, in endeavouring to put a loop round the neck of the womb, the fungus broke off, and the bleeding was terrible. The young physicians and surgeons, and a few experienced physicians who were present, among whom Professor Osiander quotes as a witness Dr Althof, physician to the Elector of Saxony, advised him to give up the operation, because they believed the woman would not be able to undergo it, after losing so much blood. But the patient herself begged that the operation once begun should be completed, and encouraged the Professor to continue it, to the great surprise of all who were present. But, as there was no longer any of the neck of the womb hanging down in the vagina, by which the uterus could be drawn down, necessity, the mother of many inventions, suggested to Professor Osiander the idea of pulling down the uterus by passing threads through it with a needle, and securing it in this manner till the operation was finished. Crooked needles were immediately mounted with fine waxed pack-thread, and carried with great caution to the bottom of the vagina, pushed through it and through the body of the womb, and then brought out through the inner orifice of the uterus; for the neck of the womb and its external mouth were already destroyed by the cancerous fungus. In this way four threads, one from each side, from before, from behind, and from both sides, were brought through, by which the uterus was gently drawn low down into the vagina, and kept fast as soon as it was near the external orifice. Professor Osiander then introduced a strong Pott's bistoury under the fore-finger of the right hand, and cut horizontally through the womb above the scirrhous part, as straight as if it were divided out of the body, where he could see it. The part that was cut off, preserved in spirits of wine, along with many other products of similar operations, was exhibited to the Royal Society. The bleeding for an instant was violent, but was very soon stopt by a sponge saturated with a powder made of equal parts of alum, gum Arabic, and colophony, applied in the vagina. After the bleeding had ceased, sponges dipt in a solution of sacchar. saturni and vinegar, were applied to mitigate the inflammation, and as soon as matter was perceived on the sponge, suppurants were employed. Professor Osiander for this purpose made use of a mixture of the extract of unripe walnut-shells, with honey, and red precipitate, which was introduced on sponges with great caution, so that the anterior part of the vagina was scarcely touched by it. When the discharge is very copious, the quantity of the mixture must be reduced, and the red precipitate omitted; if inconsiderable, its quantity must be increased. The cure of this first operation went on so rapidly by the assistance of tonics, particularly cinchona, internally, that the patient could leave her bed in the third week, and in the fourth walked about, totally recovered.

This success of this first operation gave Professor Osiander the courage to undertake it again soon afterwards; and he has now performed it nine times, and always with similar success. Even one of those patients, after enjoying good health for three years, came to him to be operated upon a second time, for the cancer broke out again, and he performed it with the same success as before. He reserves to another occasion the circumstantial relation of each case, and at present only gives the following result of the observations which he had so many opportunities of making with regard to this disease, and others which are frequently mistaken for it.

The scirrhus and cancer of the womb begin almost always on the external orifice of the uterus, and proceed from thence to its body; and often before the disease has destroyed half of the womb, death puts an end to the agonies of the sufferer. In rare cases, an ulcer is formed in the bottom of the womb, which degenerates into a cancer that admits of no cure. But, in the first case, a perfect cure may be obtained by cutting out in time the scirrhous and cancerous portions. When the cancer spreads from the orifice of the womb down into the vagina, which it very often does, no cure is to be expected from excision.

True scirrhus and cancer are, however, very often mistaken for other diseases.

First, for the benignant swelling and thickening of the womb, which often happens after abortion, miscarriage, or difficult natural labours. The neck of the womb and its orifice swell to twice their natural thickness. The weight and pressure of the whole womb becomes disagreeable to the woman, and causes a sensation as if it would fall out of the body. This swelling is caused by accumulation of blood in and about the womb, from *plethora localis*; and being for the most part joined with hæmorrhoidal symptoms, and indeed oftener with hæmorrhoids in the vagina, physicians and others, even accoucheurs skilled in investigation, are frequently misled, and conceive it to be a bleeding cancer of the womb. This swelling (εξογκωσις) and thickening (σκληρωμα) of the womb may remain during life without becoming malignant, when no other cause comes into operation. It may be cured by remedies which take away the *plethora localis*; but it may also degenerate into a true scirrhus and cancer, when local irritation or morbid matter, *e. g.* a chronic exanthema, repelled from the skin to the womb, supports and augments the swelling.

Professor Osiander had repeated opportunities of treating such cases, which, as well as their causes, are frequently misunderstood. In some instances, a round hard pessary, introduced with force, so squeezed and pressed the neck of the womb, as to cause an obstinate scleroma, which could only be cured by an operation. In one case, cancer of the womb, lameness of the lower extremities, and miserable death, were the consequences of a pessary forgotten in the vagina, and pressing on the mouth of the womb.

Another cause of scleroma, and several symptoms resembling cancer of the womb, which is often misunderstood, is the incarceration of a retroverted unimpregnated womb. The fold behind the womb is in many women of such a form, that it is very narrow above, and wide below, nay, even sometimes divided into two parts by a perpendicular partition. After labour, and by hard straining to have a stool, the bottom of the womb is sometimes pressed backwards and downwards into this fold, and cannot recover itself again; the womb begins to swell, and causes a great pressure on the anus, irritation on the bladder, and violent hæmorrhoidal symptoms. Professor Osiander met with four cases of this kind, three of which he treated with success, instructed by the first.

In the first case, a widow complained of constant hæmorrhoidal symptoms, a disagreeable pressure on the anus, and frequent faintings. The seat of pain was not examined, but external and internal remedies for the hæmorrhoids were administered. She was suddenly attacked by nervous fever, and died. On opening the body, the unimpregnated womb was found retroverted, and adhering to the bottom of the fold. Behind this a wide spreading ulcer was discovered, with traces of inflammation on the intestines and spleen. The ovaria were indurated.

In a second case, after abortion, the hæmorrhoidal symptoms continued a long time, and caused excruciating pain, and most obstinate costiveness. On examination, the womb was found retroverted and incarcerated, with a sarcoma on its outer and anterior side, of the size of a very large chesnut. As it was impossible to bring it back by the common taxis with the point of the finger, Professor Osiander contrived a peculiar manner of operating, which, in this, as well as in the two following cases, gave speedy relief. He introduced his dilator from above to the bottom of the retroverted uterus, and turned the instrument round at once. By this method, the bottom of the womb started up suddenly. In the next case, the womb, together with a polypus as big as a pear, had been retroverted upwards of a year, and had caused effects like those of pregnancy, hæmorrhoidal affections, and symptoms resembling cancer. Professor Osiander recognised the disease at the first examination; raised up the womb as in the former case; and, after a few days, he dilated the uterus with the same instruments, and cut the polypus out by the root, with crooked-bladed scissars of his own invention, which he is in the habit of doing with all polypi, for he never either ties or tears them out. In the last case, the womb was retroverted for some years, and had caused the severest hæmorrhoidal affections, as well as difficulty in passing urine, and going to stool. These symptoms were aggravated by the many warm injections that were applied *in ano* and *in vagina*, the affection being mistaken by the physicians for a cancer of the womb. But

Professor Osiander, on the first examination, discovered the real nature of the disease, and, by the skilful application of his dilator, soon put an end to its long existing cause.

Secondly, Cancer of the womb is often confounded with ulcerated polypus of the womb discharging fetid ichor, and with sarcoma of the uterus. These constitute a peculiar, and not very uncommon disease of the female sex, generally misunderstood, and frequently left as incurable; but Professor Osiander, for some years past, has cut out and cured many, after a peculiar and successful method of his own, and his method of treatment, and his observations on it, will be laid before the public on some future occasion.

The causes of cancer of the womb are manifold. One very common cause, besides mechanical injury of the external orifice of the womb, is syphilis, obvious or latent, or a scrofulous, herpetic, atrabilious and gouty disposition. Besides, all eruptions of the skin fall readily on the private parts of women, in consequence of a continual local irritation, and cause fluor albus of various kinds, which sometimes precedes cancer of the womb, and sometimes accompanies it.

Among the internal remedies used in the cure of cancer of the womb, along with the operation, Professor Osiander found none so powerful as mercurials with antimonials, and the free use of diuretic drinks. He has not hitherto ventured to make trial of arsenic, although he believes, that, in doubtful cases, it might be cautiously used; but he has not as yet met with a proper opportunity, which occurs oftener in hospitals than in private practice. Professor Osiander admits only now and then into the lying-in-hospital, of which he is the director, a patient afflicted with cancer of the womb, where there is some hope of her being cured; and last year, he again relieved such a patient from her long sufferings, by operating upon her in the presence of many of his pupils. He never made a secret of his manner of operating, although he has been publicly upbraided for having done so; nay, never was such an operation undertaken without strangers as witnesses. He has taught it every year in his lectures, and often performed it publicly before his pupils. He communicated it to every physician in his own country or abroad, who wrote or spoke to him on the subject. Last year he sent an account of the operation to Mr Maunoir *senior*, of Geneva, in a letter, written in the Latin tongue, which Mr Maunoir communicated to Mr Martin, surgeon to the hospital in Lyons, and to the medical faculty of Montpellier. This letter, along with Mr Maunoir's theory of cancer, was printed in the annals of the medical society of

Montpellier. Even very lately Professor Osiander performed the operation in Switzerland, in the presence of three skilful physicians and surgeons. What may be its ultimate success is not yet (1808) known, but hitherto the accounts are very favourable.

Professor Osiander has two methods of operating for cancer of the womb:

First, in the manner already described. The patient must be placed on a high labour-stool, or on a table, in the position for the operation for the stone, or for delivery, and held fast. The private parts are cleaned out by injections, and softened with an ointment. The fungus is taken away with the finger, or with an instrument. If the bleeding is great, it will be stopped by applying a sponge dipped in vinegar with astringent powder; if not, the operation is immediately continued. For piercing the uterus, Professor Osiander uses small crooked needles made of soft steel, so that their points can be easily bent. Hard tempered needles are in danger of being broken, and if the broken points be not found, they might do the greatest harm. The greatest difficulty is, to bring the needles through the uterus, till by practice the necessary dexterity is acquired; but the length to which this can be carried, the following circumstance will shew. Last year, in the lying-in-hospital here, it happened, in a public operation, that the threads were drawn out of the needles, after they had been pushed through the uterus. Professor Osiander left the needles in the uterus, and threaded them again within the vagina, without requiring the assistance of a contrivance for throwing in light. The operator can, and must, in such a case, acquire by practice the same precision and dexterity which many blind people have, as he must act as a blind man. A needle-holder is used merely to introduce the needles; the pushing of them through, as well as all the rest of the operation, must be performed by the fingers alone. The direction of the stitches is from behind forwards, also from before backwards, and from the sides to the centre. The greatest caution is necessary, that the needles do not go too far, and catch upon the vagina, or puncture one of the arteries, or the great veins behind the coat of the vagina. To prevent this, the operator must sacrifice his fingers; and the point of the needle, when through, must be bent immediately with the point of the finger, and seized, and drawn through with a pair of forceps. This cannot be done without pricking the fingers; and it might have been thought that the fingers could not escape being dangerously infected, having to work so long afterwards in the morbid ichor. Professor Osiander, however, was never infected; for, immediately after the operation, he always washes his hands repeatedly with soap, and then washes out the pricked wounds with diluted *sal volatile*, and last of all sucks them out, without applying any suppurants to the wounds. After five or six days, the wounds healed without any inconvenience.

A waxed thread four times doubled must be drawn through each needle; very often two of these will suffice to draw down the uterus into the vagina; at other times, four are required.

Many physicians have an erroneous idea of this operation; they believe that the uterus must be drawn out before the body, that is to say, must be brought out entirely. It is equally erroneous to suppose that it is intended that the whole uterus should be cut out, and for this reason the operation for cancer of the womb is by some denied or rejected as impossible.

By the threads the whole womb is only fixed in the bottom of the vagina to be cut off, but the drawing of it down is sometimes rendered difficult, from an adhesion of the external mouth of the womb to the omentum. Upon a late occasion, from this cause, the uterus could not be drawn down by the threads, and the threads were accidentally cut in introducing the bistoury. Professor Osiander took a pair of lithotomy forceps, laid hold of the orifice of the womb with them, and cut the cervix off.

The cancerous and scirrhous portion is to be cut off only as far as the healthy substance, which is known by feeling the smooth surface, and elastic firmness of the latter, which are very different from the rough and woody-like scirrhus.

The crooked bistoury must be small, strong, and sharp, and rounded at the point. It is to be carried up close to the cervix, as high as possible, while an assistant keeps the labia separated. The incision must be made in curve lines, first boldly, and then cautiously, for fear of hurting the vagina. This is Professor Osiander's first and oldest method of operating.

The second is as follows: When the cervix is already for the most part destroyed by the cancerous fungus, much enlarged, and the cavity full of knotty carcinomatous fungus, and it is neither possible to lay hold of the uterus with the needles, nor draw it down, then he places the patient almost into a horizontal position; makes an assistant lay his hand on the region of the *fundus uteri*, to press down the womb; fixes the bottom of the womb in the hollow of the os sacrum with the fore-finger of the left hand; introduces the middle and ring-finger into the womb, and, with the help of these fingers to guide the cuts of the scissars, he extirpates, in small pieces, all the fungous, rough, and scirrhous parts, with a pair of bent-bladed scissars, and an instrument of his own invention. As soon as this is done, he fills up the cavity with a sponge dipped in wine, and in the astringent powder spoken of before, and treats the wound in the manner already mentioned.

According to the testimony of all those who have submitted to it, this operation is not nearly so painful as one might imagine, and it heals much sooner than could be expected. Nature seems in no part of the human body to be more active in reproducing what is lost, and in healing what is wounded, than in the parts of generation in both sexes. It is surprising to see (for example) a scrotum lost by a mortification, restored again in four weeks. It is no less surprising, for a kind of mouth of the womb to be regenerated in a few weeks after the *cervix uteri* has been totally cut off; or regular menstruation to be re-established equally soon from the half womb left after the operation.

The duration of the cure is very different, as it is in every operation for cancer. One circumstance, and the result of experience, is of great importance, namely, that neither during the operation, which is conducted with so great difficulty, nor during the subsequent treatment, has one patient hitherto died. Some of them died more than a year afterwards from other causes, as from apoplexia nervosa, dropsy, and the like, or the disease returned suddenly again from new causes, and became incurable; others continued three years and more in good health.

The sooner a patient resolves to submit to the operation, the longer will she enjoy her recovery; and the better she observes the diet that is prescribed afterwards, the better chance will she have of being freed from the evil for ever.

It is consolatory to observe, that, in a disease which has been thought incurable, more has been done than was formerly thought possible, and that thus a new path is opened for the art of surgery, by which suffering humanity may derive help and comfort. Let, then, practitioners labour to acquire the courage and dexterity which is required to undertake such an operation, and conduct it to a fortunate termination.

V.

On a Newly Constructed Sound, for the purpose of discovering the Stone in the Bladder, accompanied with a Plate.

By JAMES BARLOW, Surgeon, Blackburne, Lancashire.

WHOEVER views with attention the delicate and complex structure of the urinary organs, will readily admit, that their consequent exposure to disease and pain, demands from the surgeon the most prompt and attentive consideration to impart relief. On these grounds, I trust the experienced reader will give me credit for attempting to obviate certain difficulties in the ordinary mode of sounding the bladder, which I have occasionally experienced in practice; and which I presume others must have also shared with me; hence, I have been led to make the following observations on the construction and superiority of the sound, as represented in the annexed plate, which I have lately been in the frequent habit of using, and can with confidence assert, that it possesses many advantages over those in common use, being moved with greater facility in the canal of the urethra and cavity of the bladder, when searching for the stone in that viscus.

Cases frequently occur where the prostrate gland is morbidly enlarged, and where inflammation has spread over the internal membrane of the bladder, and along the posterior portion of the urethra,* producing spasm and irritation, and, when complicated with stone in the bladder, it exhibits an additional aggravated cause of the frequent desire to expel the urine. This reiterated excitability of the functions of the urinary organs, whether dependent on voluntary or involuntary action, manifests a degree of sympathizing agency over these parts, which presents a frequent and obvious barrier to the introduction of either the sound or catheter.

To accomplish the introduction of the sound with safety to the patient, and facility to the surgeon, he should be furnished with a variety of instruments of different degrees of curvature, length, and diameter, proportioned to the age and size of the patient.

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* The membrane of the urethra sometimes becomes inflamed and dry, which likewise prevents the free motion of the sound.

As no two cases are in every respect exactly similar, and almost every writer on surgery has described the anatomy of the parts subservient to lithotomy, it appears superfluous in this place to enter minutely on the subject; presuming the reader to be fully acquainted therewith. It will be granted, that the management of the catheter requires nearly the same manœuvre to conduct it into the bladder as the sound; let me then entreat the attention of the young surgeon to the concluding paragraph, so elegantly expressed by an author of distinguished celebrity, when closing his directions on the mode of introducing the instrument into the bladder. "The catheter," says he, "in the hands of a surgeon, like the pencil in the hand of a painter, requires frequent use, and much practice, to be managed with facility and success. Rules may be laid down for the forming a rough outline; but those more delicate movements, which, in many instances, are necessary to insure success, can no more be described, than a painter can describe those finer touches of his pencil, which are necessary in the perfecting of some finished performance."

When having introduced a common formed sound into the bladder, for the purpose of exploring the different parts of that viscus to find the stone, I have frequently perceived the instrument so firmly embraced by the urethra, that it was scarcely moveable without the whole of that canal, and body of the penis co-operating with the motion exercised by the hand in attempting to complete this stage of the operation; hence will appear the difficulty and obscurity of such blind research, and the uncertainty of identifying the tremors communicated from the stone, along the sound; these perverse circumstances first suggested the idea of the necessity of adopting an instrument differently constructed from those in common use.

I am disposed to believe, that the failure attendant on detecting the stone may not unfrequently be attributed to an irritable and spasmodic affection of the * muscles of the perinæum and bladder, opposing the motion of the instrument, independent on organic disease; for when its point is conducted to the membranous part of the urethra, ejaculator seminis, and prostrate gland, it excites the contiguous muscles of the lower part of the pelvis and bladder into action, which impedes the motion of the instrument. In this uncertain and embarrassed posture of af-

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* Is it not the two muscles surrounding this portion of the urethra, as described by Mr Wilson, which chiefly tends to impede the introduction of any instrument into the bladder? See Medico-Chirurgical Transactions, Vol. I.

fairs, it is manifest, that any judicious movement of the sound must be fruitlessly employed, unless the stone be of considerable size, or seated near the neck of the bladder.*

The pain and spasm so frequently excited on the living body (when tortured with calculi) by the introduction of any instrument into the bladder, must have been noticed by most practitioners who are versed in this branch of surgery; and it is a fact, worthy of observation, and which should not be overlooked by the junior surgeon, that a similar attempt to pass either the sound or catheter on the dead subject, is evidently an operation pregnant with comparatively minor difficulties, seeing that the muscles subservient to these parts have lost their vital energy.†

Having thus slightly marked out a few leading impediments in the mode of sounding the bladder (which is scarcely noticed by surgical writers), without entering into a laboured detail of every step and stage relative to the subject, I am induced to infer, that the practical lithotomist will acquiesce with me in having suggested an instrument, the construction of which, when used with skill and adroitness, will surmount most of the incidental obstacles relative to the operation in question.

Explanation of the Plate.

A. A sound of the common length for an adult, with all that portion of the instrument from the anterior part of the bulb or point to the handle, reduced equally to about one-half its usual thickness or diameter, which diminished form renders it less liable to be acted upon by the urethra.

B. The apex or bulb of the sound of the usual proportionate size.

C. This part of the handle to be perfectly smooth.

Blackburn, Lancashire,
December 8, 1816.

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* In the course of an extensive practice, I have many times been able to detect the stone in the bladder, when other surgeons have repeatedly and fruitlessly employed all their efforts.

† I have also been in the habit of occasionally sounding the urethra, to ascertain the place and extent of stricture, with this instrument, and sometimes using one made nearly straight, either of which excites less irritation, and is also moved along the canal of the urethra with greater facility than the bougie.

VI.

Reply to Dr Monro's Observations on the Discovery of the Action of the Oblique Muscles, attributed to Dr Mayow. By G. D. Yeats, M. D. Fellow of the Royal College of Physicians, London.

Dr Monro's book of anatomy has recently fallen into my hands, and, in turning over its leaves, I find I am honoured by a notice in nine pages, devoted to prove that the merit I have awarded to Mayow, for a discovery of the true action of the intercostal muscles, has not been correct.* In a juvenile work, published above eighteen years ago, it was very possible that the ardour of youth, almost always generous in its feelings, might have overstepped the bounds of correctness in attributing the *suum cuique*. It was not, therefore, without anxiety, that I turned to my long-forgotten publication, under the apprehension that, in my zeal to draw the public attention to the great genius of Mayow, I might have been his eulogist unjustly, at the expence of the literary reputation of the Monro Family. A reference, however, to the chapter of my publication, has contributed to confirm my original feeling on the subject.† The anatomist knows that there are two sets of intercostal muscles, viz. the internal and the external; the fibres of the former run downwards and backwards, and those of the latter downwards and forwards, consequently, they decussate each other. Until Mayow published on this subject, it was universally believed, that these two layers of muscular fibres served different offices, viz. that the internal depressed, and the external raised, the ribs during respiration. To combat this doctrine, and to prove that the action of both sets of muscles conspired to raise the ribs and to widen the chest, Mayow devoted a part of his chapter on respiration, with reasonings exemplified by diagrams, and plates of the ribs and intercostal muscles. It is from the expressions which Mayow has made use of to elucidate his meaning, that Dr Monro has endeavoured to prove that he did not understand his subject, and, consequently, "that Mayow had no title whatsoever to the discovery, that oblique muscles possess the advantages of performing more extensive motions than straight muscles are capable of doing." * I must, however, premise, that no such general proposition as that just stated is to be found in the chapter on this subject in my book, and I have not leisure at this time to examine Mayow's work, to discover how far he is entitled to merit upon the broad basis of that proposition. I have indeed admitted, in my publication of 1798, that Dr Monro has very ably extended the principle of obliquity to the action of muscles in general. The whole of the arguments, however, were applied to the co-operating oblique action of the intercostals; and I beg it may be understood, that in this anwer to Dr Monro junior, I strictly confine myself to this particular part of the subject. It appears to me (and I appeal to the learned Professor's candour, as his quondam fellow-student under his venerable and respected father), that his detraction from the just merit of Mayow has arisen from a misunderstanding of (by hasty perusal probably), or from a want of a sufficient attention to, his particular meaning. Dr Monro, indeed, does acknowledge that he did not know, when he wrote his observations, that Mayow had taught that the internal and external intercostals co-operate in inspiration; and I presume he acquired this information, in consequence of having been induced to peruse Mayow, from the praise I had justly bestowed upon him. The following are Mayow's own words:

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* Outlines of the Anatomy of the Human Body, by A. Monro Junior, p. 123—131.

† Observations on the Claims of the Moderns to some Discoveries in Chemistry and Physiology. By G. D. Yeats, M. D.

"Recepta opinio est, musculos intercostales tantum exteriores dilatando, interiores autem contrahendo pectori inservire. At mihi videtur rationi magis consentaneum ab iis utrisque simul pectus dilatari. Nempe affirmare fas sit, costas sursum tractas pectoris spatium dilatare, deorsum autem retractas idem contrahere. Supponimus enim hic (quod cuivis in sceleto videre datum est), costas cum spina et sterno non secundum angulos rectos articulari, sed angulos infra costas esse paulo recto minores; ita ut si costa sursum trahatur, ejus articulationes cum spina et sterno, versus angulos rectos accedant. Asserimus insuper a costis ad angulos rectos elevatis, pectus dilatari." P. 278-9. "Quandocunque musculus, duobus ossibus affixus contrahitur, os minus fixum ad alterum magis fixum accedit; quapropter, cum inferior quæque costa minus fixa est quam superior, necesse est, ut musculis intercostalibus etiam interioribus se contrahentibus, costæ singulæ inferiores sursum trahantur. Imo similis plane ratio obtinet in interioribus musculis ac

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* Monro's Anatomy, p. 131.

in exterioribus." And this Mayow beautifully and irrefragably proves by a diagrammatic plate of the ribs and intercostals, and then goes on to observe, "Advertendum est hic loci, quod costæ cum spinâ ita articulentur, ut costæ a musculis prædictis tractæ, facile ascendant et in orbem eleventur."—P. 281.[*] I add Dr Monro's words also, that the reader may see, at one view, the great similarity of opinion. Mayow, it will be remembered, published in 1674, and Dr Monro in 1794,[†] a difference of 120 years. "But," says Dr Monro, "in treating on particular parts, I dwell chiefly on the structure and effects of the intercostal muscles, as a variety of opinions concerning their operation has, in the course of the last 100 years, been proposed, and as no author had explained the reason of the obliquity of their fibres, nor of their being disposed in two layers of decussating fibres; after fully explaining the structure, I endeavoured to prove, as Haller had done, but with some additional arguments, that both rows of intercostal muscles conspired to elevate the ribs, or that they were muscles of inspiration." After having asserted this, Dr Monro proposes his reasons and illustrations, that the first rib is so much fixed as to be almost immoveable, and that the second rib is more fixed than the third, and the third than the fourth, and so on downwards. The exact coincidence of these opinions requires no demonstration; but it is somewhat surprising, that, although Haller quotes Mayow,[‡] and that Dr Monro is well acquainted with the works of Haller, yet that both these great anatomical physiologists should not have given Mayow his due credit for the admirable explanation of the conspiring action of the intercostals; nay, even that Dr Monro should state, that no author had explained the reason of the obliquity of their fibres, nor of their being disposed in two layers of decussating fibres; and our surprise must be not a little increased, that the observations of Collins, Verheyen, and Drake, should have escaped the attention of Monro and Haller, when it is considered that they both quote these authors, who had become converts to Mayow's doctrine, and had also taken considerable pains to confirm his illustration of the beautiful mechanism of the thorax.[§] The whole of the above quotation from Mayow is passed over, and the Professor hastens to that part of the chapter containing expressions which, I conceive, do not militate against the particular doctrine which Mayow wished to inculcate, although Dr Monro is desirous of making him inconsistent with himself from these expressions. Speaking of the conspiring action of the intercostals, Mayow observes, "Et hoc ulterius adhuc ostendit musculorum intercostalium obliquus et contrarius situs. Ideo enim videtur natura musculos illos oblique costis inseruisse (quanquam iisdem sursum aut deorsum movendis recta insertio melius conveniret), quia costarum interstitia adeo minuta sunt, ut si musculi isti rectis angulis insererentur, breviores essent, quam ipsa musculorum natura patitur, quapropter ut dicti musculi *justam longitudinem obtinerent* eos oblique, ut fit, costis insertos esse oportet, * cum tamen obliqua hæc positio ad costas sursum movendas minus idonea sit, ideo natura, machinatrix sapientissima, diversi sitûs musculos constituit, ut dum hinc inde æquali nixu oblique costas trahunt, costæ interim recte sursum ascendant;" and he then refers to his diagram for explanation, and adds, "Plane ut videantur musculi interiores simul et exteriores eodem tempore se contrahere et sociatu nixu costas sursum ducere pectusque ampliare.'—P. 282, 283. The learned Professor has quoted this passage, save the last sentence; and, with a view of drawing the attention of the reader to a particular part, he has printed "quanquam," &c. &c. conveniret, in *italics*, quoted and referred to it twice, as a triumphant conviction of Mayow from his own words. But the Professor has misconstrued, unintentionally I imagine, Mayow's meaning, from his mind being occupied with the idea of the general effects of the obliquity of muscles, whereas the subject is here entirely confined to the intercostals. Dr Monro's own words, in a former part of his work, will shew that he has overlooked Mayow's meaning. "But, to shew you," says the Professor, "in the clearest manner, that Nature may have other very different purposes in view, it will be found, that, in various instances, the strength of the muscle is diminished by the obliquity of its fibres. This is the case of many of the short muscles attached to the spine, &c.; but the most striking instance of this is to be found in the intercostal

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[*] Tractatus Quinque Medico-Physici, studio Joh. Mayow, LL. D. et Med. Oxon. 1674.

[†] Observations on the Muscles, and particularly on the effects of their oblique fibres. Edinb. 1794. This is Dr Monro the father: His son is the present Professor, who objects to Mayow as the discoverer on this subject.

[‡] Elementa Phys. III. 206.

[§] Several passages of Drake are referred to by Dr Monro in his publication

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De Venis Lymph. Valv. See also Observations on the Claims of the Moderns, &c. p. 177—187.

* The Professor, making observations on the obliquity of the intercostals, adds, "Hence straight or perpendicular muscles between the ribs would not have had *sufficient length* for producing the proper motion of the ribs."—Anatomy, p. 118.

muscles. For it is evident, that if the fibres had been straight or perpendicular to the ribs, they would have been not only much more numerous than in the oblique position, but would have acted upon the ribs with greater force."* "Quanquam," as Mayow expresses it, "iisdem sursum aut deorsum movendis recta insertio melius conveniret;" that is, if the intercostals had been placed in their situation with perpendicular fibres, the ribs would, during their action, provided the nature of the articulations allowed of it, have been moved during inspiration in the same straight line, consequently the dilatation of the chest would not have been affected by their movements; but to obviate this difficulty, which one set of oblique fibres would also have produced, two sets have been formed, which, acting together, not only directly raise the ribs, but, assisted by the double articulation at the spine, and the oblique one at the sternum, cause them, during their ascent, to form the parabola of a projectile, or to describe the arc of a circle, and thus of course, considerably to increase the diameter from one side of the chest to the other. It is evident, from the double articulation of the ribs at the spine, and from the obliquity of their attachment at their cartilaginous extremities, that, if the muscles had been straight, they would have pulled the ribs directly against their articulations, and thus they would not have been raised at all; but the obliquity of the insertion of the muscles enables them to act out of the perpendicular, and thus to draw them not only upwards, but to throw them outwards, considering the nature of the articulations, and thus to form the arc of a circle; the muscles were therefore placed obliquely in two decussating layers; but had it been the object merely to raise the ribs without throwing them forward to dilate the chest, "iisdem sursum aut deorsum movendis recta insertio melius conveniret." This appears to me to have been Mayow's meaning, and which will be more evident, if the reader will take the trouble to consult his plates, either in the original work, or in my publication, where he is largely quoted, and the plates transcribed. I may, therefore, very safely conclude, that Mayow is fully entitled to the merit of having proved that both layers of intercostals raise the ribs, and that, in raising them, they are also thrown outwards during inspiration, and thus contribute to enlarge the chest for very evident purposes. Mayow, indeed, was a genius of no ordinary cast; his works prove him to have been a man of great activity, perseverance, and penetration. His mode of reasoning was apposite and instructive. He was the discoverer of oxygen, of the nitrous and azotic gases, and he applied the name of fire-air to the first, as Scheele has since done in Sweden by the term *feuer-luft*, signifying precisely fire-air, without knowing of Mayow's discovery. His explanation of the analogy between respiration and combustion—his doctrine of the former, viz. that it was to warm and not to cool the blood, as was then the received opinion—his explanation of muscular motion, and of the co-operating action of the intercostals in particular;—his invention of an excellent chemical apparatus for experiments on gases, form altogether a mass of anticipating information, which the reader, dazzled by the brilliancy of modern science, would probably be surprised to find so far back as 1674, and in the works of one who died at the early age of 32. It is not, indeed, of any beneficial consequence to the public who is the discoverer of any particular fact, and it would be a good rule to follow, not to enter into any speculative discussion upon points of no essential benefit to mankind: but it is gratifying to trace the progress of science, to mark the dawn and the completion of discoveries, and to award the palm of merit to those ingenious minds whose exertions have partly dispersed the clouds of darkness over which subsequent labours have spread a broader effulgence of light.

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* Anatomy, p. 109.

King-Street, St James's Square,
March 22, 1816.

VII.

On the Use of the Poultice in Internal Inflammations. By WILLIAM ENGLISH, Surgeon, London.

ÆSCULAPIUS himself is not, I believe, more antique than in the simple remedy I now offer to your attention.

A poultice,—a few observations on a simple warm poultice, are what I beg leave to intrude on your good nature for a few moments. Do not the surgeons too exclusively monopolize this remedy to themselves? I am much mistaken if it is not found as effectual in a variety of internal inflammations (which surgeons are not often consulted about), as it is known to be in those externally situated, particularly such as pleuritis, enteritis, hepatitis, peritonitis, cynanche, &c. of course no one will suppose that I contend for attempting to combat such dangerous diseases, armed merely with external applications. All I mean to urge from strong conviction is, that this is an auxiliary when called *early* into action, which will be found availing in a degree not generally imagined; and, I am given to understand, that, on the Continent, especially in Spain and Portugal, this is an application which physicians resort to very generally, and with great confidence.

About two years ago, I was seized with pleuritis; my cure was confided to the very kind and skilful management of two eminent physicians; the most approved treatment was resorted to, bleeding, both generally and locally, and blistering, were not spared; but, in defiance of all that was done, for six days the pain and misery remained unabated, when, on the seventh day, a poultice was suggested, and applied in the way I have always seen it the most speedily effectual: a large blistering plaster was laid on for two hours, and a warm poultice succeeded, which was repeated about two hours afterwards. This happily soothed me to sleep, the first time I am sensible of having had that comfort for a week. By the continuance of this remedy, aided solely by a little aperient medicine, in a day or two I was enabled to lie on my side, which hitherto was impossible; expectoration became copious and easy, and in a short time I recovered.

In March last, a particular friend of mine was seized with an acute inflammatory attack; the pain was entirely confined to the left side. He placed our fingers where the appendix of the diaphragm arises from the lumbar vertebræ, as the part where the most excruciating pain was felt. He was in excessive misery; the least movement or cough was torment to him. Dr Babington attended this patient with me, and of course every thing likely to subdue the complaint was resorted to. One peculiarity in the symptoms attracted our attention, viz. a considerable expectoration of a beautiful yellow bile, unmixed with the glairy phlegm he was perpetually coughing up. He declares all our remedies were ineffectual until the application of the poultice on the fifth day, which gave him great relief. This was kept constantly warm to the part affected for two days, when the pain was so far abated that he requested permission to lay it aside, its weight being oppressive. He recovered very slowly. I have seen cases that put on all the characters of peritonitis and enteritis, where the stomach was so irritable, that medicines could not be retained for an instant, which did well by the application of a very large blistering plaster, succeeded in two hours by poultices, kept constantly *hot*, after which, medicines could be administered effectually. I was called lately to a gentleman who was seized in the night with low muttering delirium, frightful groaning, and excessive shivering; he complained of no very particular pain, but looked suspicious and fearful. On pressing my fingers on the region of the stomach, in the direction of the diaphragm, he started, and almost jumped out of bed, and it was with difficulty I could prevail on him to suffer me to examine this part again, which was tense and unusually hot. He had vomited two or three times, and was purged; his thirst was insatiable. In the evening he had noticed a slight disposition to a bowel-complaint, which prevented him from going out as intended; otherwise he was very well.

I wished to bleed him, and took out my lancet for that purpose, but he expressed such extreme horror at the sight of this instrument, and such dreadful apprehension at being bled, that I was deterred from performing the operation, and for the present contented myself with giving him four grains of calomel, and as much James's powder, with the constant application of a *hot* poultice. In five hours after, when I again visited him, all the alarming symptoms had abated, and he could bear me to press on the scrobiculus cordis without fear or pain. He described the effect of the poultice as a charm, and he very soon recovered.

I consider the warmth and moisture of a poultice to be much superior to fomentations, and it is attended with less inconvenience and trouble. The only objection is its weight, but this, however, is seldom complained of, until the cause for which it is applied be removed. A bladder, half filled with warm water, is a very good substitute for the poultice; but this is even more complained of for its oppressive weight, and I think less efficacious in all respects. The application of a very large blistering plaster, for an hour or two previous to the poultice, certainly facilitates the beneficial effects thereof; but as blisters, when applied large, are apt to give trouble and pain by the strangury they cause, about one-third of the emplast. lyttæ, with two-thirds pix Burgundica, forms a plaster less liable to this objection, and is even more stimulating to the skin; of course, more efficacious, when applied for this purpose.

Mark Lane, London, November 1815.

N. B. On completing this letter at the time it is dated, I chanced to take up a newspaper, a paragraph in which announced, that, in Liverpool and in the neighbourhood, inflammation of the bowels, and bowel-complaints, were alarmingly prevalent; owing, it was supposed, to the abundance of hazelnuts which that season produced, and were eaten.—A certain cure, however, was to be obtained by the application, to the part affected, of a hot poultice, as soon as the pain commenced. This was enough for my purpose, as I only wished to call the attention to that, which I consider of more importance than is commonly attached to it, in internal inflammatory complaints, I therefore did not forward the letter to you; but now I am induced to present it, in consequence of an allusion to the same subject in the last number of the Medico-Chirurgical Transactions by the president; although I may infer, by your criticism on Sir Gilbert Blane's paper in your last publication, that it does not much accord with your own ideas on the subject. I am free to confess that I do not understand Sir Gilbert to urge the application of topical remedies, as excluding the lancet and other more powerful means; he only seems to imply, that even those means are known but too often to fail, which may possibly be aided by the former, and such is what I wish to affirm, by what, I think, I have witnessed.

May 16, 1816.

VIII.

On Yellow-Fever. By J. B. Sheppard, R. N.

A selection of alleged proofs in favour of the Bulam fever attacking the human frame only once, having been inserted in the last number of this Journal, with an accompanying claim to the discovery of such peculiarity, I am induced to offer some observations on the subject, which I beg to be understood as referring more strictly to the legitimate yellow-fever of the West Indies, than to that form of disease which has occasionally appeared in some parts of the south of Europe, and to which the name of the Bulam fever has been applied. The former disease it has fallen to my lot to treat, occasionally, on an extensive scale, during a service of more than eight years of the late war in the West Indies. I may also be permitted to add, that my opportunities of observation were extended beyond the usual sources of information, in the situation I held as second-surgeon of the Naval Hospital at Antigua, at a period when yellow-fever prevailed in an unusual degree in several of his Majesty's ships under repair in English harbour. The epidemics of Gibraltar and Spain I have no knowledge of, beyond what I have derived from description.

It is not at present my object to controvert the contagious nature of those diseases, or to discuss their identity; but I may remark in passing, that if their identity be admitted, my experience of the laws of the legitimate tropical yellow-fever, having convinced me abundantly of its origin in strictly local causes, I should be compelled to withhold my assent to their possessing any contagious properties. The investigation of the supposed sources of introduction of the Bulam contagion into the various ports and garrisons, is necessarily, from the nature of the inquiry, involved in obscurity, and peculiarly liable to fallacious deductions; an increased value is therefore stamped on the simple and clear evidence furnished by the negative facts in favour of domestic origin. The daily familiar examples in the West Indies of the promiscuous introduction amongst the healthy, of men labouring under the yellow-fever in its various stages, without the communication of the same, although no means of prevention are practised, present an accumulation of facts in favour of local origin, which, divested of hypothetical research, or oral reports, rest on the obvious truth, that, if contagion formed any part of the character of the tropical endemic, the effect would be manifest, in those instances of unrestrained intercourse, in the due production of the disease; and the truth of such contagious propagation would, from the multitude of the examples, have speedily received unequivocal confirmation. Such effect not succeeding, it would be an unphilosophical conclusion to admit the agency of contagion among the causes of the tropical endemic.

But, to proceed to the consideration of the more immediate object of this communication,—the opinion that the human frame is liable only once to an attack of the Bulam fever, which may be here kept distinct from the question of contagion. If the assertion be limited to the disease which has caused the mortality in Gibraltar and Spain, having no personal experience of that disease, I have no observations to offer thereon; but if, as appears to be intended in the term "Bulam fever" is included the disease called the yellow-fever of the West Indies, I must then express my dissent from the proposition of absolute immunity after one attack. Every one who has attended to the laws of the tropical endemic, will have had occasion to observe the varied extent of unsusceptibility of yellow-fever, which the European acquires by the combined or separate effect of duration of residence, degree of habituation, to the remote cause, and severity, and number of febrile attacks; it will be obvious, that, if the unsusceptibility depends on the above causes, (which I believe few will dispute), its degree will be liable to variation, and the immunity of the individual will therefore be in no case absolute, but always relative; a condition widely different from the exemption acquired by the system having once undergone the disease produced by the specific contagion of the small-pox, to which it has been compared. The unsusceptibility of yellow-fever thus acquired, although merely relative, is, however, always sufficiently distinct, and confers, in many instances, the appearance of absolute non-liability; the deception is confirmed, from time to time, by instances of a body of subjects, who have undergone an attack of the yellow-fever (and have consequently received the advantage of habituation to the other means of acquiring relative non-liability) in former situations, where the remote causes of fever are more powerful than where they may be subsequently exposed to a prevailing epidemic, of which they have proved to be unsusceptible: as was exemplified in the exemption of the French West India refugees, in the North American epidemics, and in the immunity of part of the garrison from the fever of Gibraltar, who had previously served in the West Indies. If the identity of the epidemic of the West Indies, and those of Gibraltar and Spain, be admitted, the superior energy of the tropical remote causes of the disease will not be denied. The transition of a ship or regiment from the West Indies to the south of Europe, as Gibraltar or Spain, will therefore, as far as concerns yellow-fever, be obviously one of relative security, and we have a right to expect what happens, that they would enjoy exemption from an epidemic in the latter places, where the intensity of the remote causes is inferior to that they had been previously habituated to endure in a tropical climate. A preceding residence and attack of the epidemic in Gibraltar, will also lessen the susceptibility of yellow-fever in the West Indies, but in an inferior degree to the former case; nevertheless, those men in a regiment or ship's company who had not undergone such assimilatory process, would, on their arrival in the West Indies, from greater predisposition, in all cases suffer the first attacks of yellow-fever; and in those instances where the remote causes of fever were not peculiarly active, would be probably the only subjects of the attack.

It may perhaps be urged as an objection, that, in all succeeding attacks of yellow-fever, the original one was improperly considered as such, when, in fact, the disease was only what is termed the continued, or remittent bilious fever. Such a saving clause would, no doubt, be useful in support of the opinion of non-liability; but even admitting the force of such objection in its general application, (which I am not disposed to grant), it must not be forgotten, that variety does not alter the species, and except a specific difference be established between those forms of disease, which I have yet seen no reason unconditionally to allow, either from observation or description, the argument is invalid; for there is no difficulty in shewing, that the criterion of the legitimate yellow-fever demanded by the author, is inapplicable to diagnosis, as well as to practice. The black vomit is considered in his publication as the peculiar test of the real disease, and it is inferred, that where that symptom is absent, the existence of yellow-fever is doubtful, and liable to denial. If this test of black vomit were to be exclusively admitted, and all other cases rejected as spurious, I should be willing to subscribe to the truth of the doctrine, that no second attacks take place, because, after that concluding symptom, constituting the test, has unequivocally appeared, I do not recollect to have witnessed any recoveries, which will necessarily preclude the possibility of future attacks; but having, on the other hand, seen recoveries effected in cases of this fever, which, uncontrolled, would, in all human probability, have terminated in black vomit and death, I cannot admit the propriety of the creation of black vomit into the criterion of the true disease, but am satisfied with viewing that symptom as the mere mark of a destructive degree of disorganization. The diagnosis of this disease is in general sufficiently obvious to a moderate share of experience, without waiting for the supervention of a symptom, the usual precursor of death, to ascertain the character of the attack. The utter inapplicability of this test to practice, is proved by the treatment directed by the author in the specific disease, being totally different from that enjoined in the spurious class, the latter requiring early depletion, while in the former the use of the lancet is said to be destructive. Although my views of the cure of yellow-fever do not coincide in the prohibition of *early* depletory treatment in any case of that disease, yet even, on the author's own remedial principles, the inconsistency of ranking a concluding symptom as the criterion of a disease, in which an early diagnosis is most important to the cure, is too conspicuous to escape notice.

Notwithstanding the parallel which has been drawn between the present assumed discovery, and that of the cow-pox, as regards the inattention of the profession to a known fact, the analogy between the two cases appears to me to be remote indeed. The knowledge of the preventive powers of the cow-pox, previous to Dr Jenner's publication, was confined to a class of persons, whose pursuits and habits of life were foreign to philosophical research, and who were therefore unable to institute the inquiry which Dr Jenner conducted to so admirable a termination.

The suggestion of non-liability to a recurrence of attacks of yellow-fever, so far from possessing any appearance of the nature of a discovery, must have naturally often presented itself to the mind in the early stage of acquaintance with that disease, like one of those illusions, which, because we fondly wish, we almost persuade ourselves to be true, until checked by further experience. From the interest excited by its extensive ravages, a fact of such vital importance in the laws of the disease, instead of escaping the notice of even common observers, or of being treated with neglect by those entrusted with the public health, would have been seized with avidity and confidence by all classes, and long since established by volumes of confirmation, affording to those exposed to the destructive sphere of its operation, indemnity for the past, and security for the future. The reverse is, however, daily exhibited in those islands, in a manner so conspicuously free from ambiguity, that the person who should at this day hazard such an opinion, would be exposed to the negative of every one who had passed a few years within the tropics.

For these reasons, I trust I am justified in concluding, that the doctrines which have called forth these observations are untenable, because they are so far irreconcilable and at variance, that one position cannot be maintained without abandoning the other; for either the Bulam and yellow-fever are not the same disease, and consequently, all the analogical reasoning derived from the latter falls to the ground; or if, as I believe, they *are* the same, then what has been called the Bulam fever may, and does, attack the human frame more than once; but the name thus assumed must be erroneous, because the yellow-fever is not an imported, or, in other words, a contagious disease.

Witney, Oxfordshire, June 2, 1816.

IX.

Case of violent Contraction of the Uterus, threatening Abortion, cured by copious Bleeding, and enormous Doses of Opium. By EDWARD LLOYD KNOWLES, Surgeon, Soham, Cambridgeshire.

THE difference of opinion existing amongst medical practitioners, in regard to the treatment of disorders, is not an unusual occurrence; but any thing that leads to a successful mode of treatment, even if it should be extended beyond the general practice, probably may not be unworthy of your observations. Under these circumstances, and impressed with the importance of the case, I beg you will give it insertion in your excellent Miscellany.

On the 5th of June last, I was summoned, in a great hurry, to visit Mrs F. of this town. On my arrival, I found her in the most excruciating pain, arising from a violent contraction of the uterus, as she was far advanced in pregnancy, being in her seventh month; the pulse very full and quick, beating 98 in a minute. She was of a robust constitution, bowels regular, and frequently an inclination to vomit. A considerable heat was excited from the violent action the system was thrown into. On examination, not the least dilatation of the os uteri presented. Under these circumstances, I thought the most advisable plan to pursue was, to deplete the system, and alleviate the distressing action of the womb, by opiates to a large extent; as it is observed by most teachers on midwifery, and indeed in almost all treatises on that subject, that where the abortion endeavours to arise from a disposition of the uterus to contract, the plan to be adopted is depleting, and opiates given in considerable quantities. Having so many respectable authorities to support me in this instance determined me to proceed boldly on the following mode of procedure. Immediately, on my arrival, after asking the different questions to decide my mode of treatment, I ordered sixteen ounces of blood to be drawn at 8 o'clock in the morning, with the draught below:

℞ Tinct. opii, gtt. xl.
Spt. æther nitrosi, ʒss.
Aq. Menth. pip. q. s. M. ft. haust. omni hora sumendus.

These were persevered in for four hours without the least perceptible benefit, the pain continuing unabated, and the contraction in the uterus increasing. At mid-day she was bled, and an addition of gr. iss. of opium made to each of the draughts, which were to be repeated every half hour. They were continued for four hours, without any alleviation of pain, notwithstanding the quantity of opium administered, and two pounds of blood abstracted from the arm. The pains came on exactly as they do in labour, at an interval of about five minutes, and that in a manner of the most violent nature. At this time, a bye-stander would most certainly have concluded, the force being so great, that the contents of the uterus must every minute be expelled. When I called again, which was at 4 P. M. it forcibly struck me, from the excessive straining pains, that abortion was rapidly advancing; but, on examination, not the least probability of it presented, the os tincæ being so completely contracted, that all hopes on that head were annihilated. The pulse continued full, and the symptoms equally violent.

Although I had exceeded the quantity of bleeding and opiates laid down by the professors on midwifery whose lectures I consulted, I still thought myself justified, both in theory and practice, to extend the plan heretofore prescribed; and, indeed, I considered no other method of relieving but that of relaxing. At 7 P. M. sixteen ounces of blood were again taken from the arm, and I directed her to be placed in a warm bath for twenty minutes, and ordered the following medicines to be administered:

℞ Tinct. opii ʒi.
Aq. Menthæ pip. ℥iss. M. ft. haust. omni hora sumendus, c. ii. pilul. sequent.
℞ Gum. opii gr. vi. divid. in pilulas vi.

She bore the operation of bleeding and the bath extremely well; had three pains whilst in the water; afterwards she was placed in bed, and bladders filled with warm water were ordered constantly to be applied to the epigastric region. I directed a steady perseverance in the medicines, and left her, with a most sanguine hope of its alleviating the violent agony she laboured under.

At eleven at night I was obliged to visit her again, and, to my great surprise and mortification, considering the quantity of opiates taken, and how far the system had been depleted, the disease was not overcome. The most remarkable circumstance was that of the opiates not affecting the head, producing delirium, or sleep, considering the enormous quantity exhibited. The pulse at this time was 70 in a minute, and rather full; thirst considerable; she had made no urine since the morning. I thought that the pains did not return so frequently as when I saw her last, and I flattered myself that, by pursuing my old plan a little farther, complete success would attend my efforts. Therefore sixteen ounces of blood were abstracted from the arm, and the draughts and pills repeated, each pill now containing three grains of opium. She went through the operation of bleeding very well; and, notwithstanding she had four pounds of the vital fluid abstracted from the arm in twelve hours, she did not appear in the least exhausted. I left her for the night, and directed the medicines to be given regularly, and herself to be kept quiet. About two o'clock the next morning I was called up. They informed me that the pains were relieved, but, to use their own expression, they could not confine her in bed. I naturally concluded, that, as the excitement in the system was alleviated, the opiates in all probability produced the delirium which I conceived to be the cause of her uneasiness. As the bowels were constipated, the following aperient was administered:

℞ Infus. sennæ simpl. ℥ii.
Magnes. sulph. ℥ss.
Tincturæ Rhæi palmat. ʒi. M. ft. H. statim. sumendus.

The draught operated several times, and the head was soon relieved. She had about three hours sleep in the night. I entertained great hopes the paroxysms would not return. About seven the next morning she had a relapse of the pain. On placing my hand on the abdomen, I could plainly perceive the uterus contracting as violently as ever, and the paroxysms returning at intervals with equal impetuosity. Anxious as I was to relieve, I must acknowledge I felt fearful of depleting the system any farther, although the pulse was at 60, and rather strong, as I had exceeded almost the bounds of moderation. Never having before met with a case of this nature that shewed such obstinacy; and as the loss of too much blood frequently produces anasarcous swellings from relaxing the absorbent system, I contented myself by extending the opiate plan. The following was taken:

℞ Tinct. opii ʒi.
Mucil. gum. acaciæ ʒij.
Spt. æther nitros. ʒss.
Mistur. camphor. ℥j. M. ft. haust. omni hora, sum.

With each draught, a bolus, containing four grains of opium, was given.

About one P. M. I visited her again, and was extremely happy to find the pain abated by the first dose of the medicine. The effects of the opiates were desired to be kept up, with an intention of preventing a recurrence. On the 7th, I found her quite tranquil. She had slept most part of the night, and perfectly easy. She complained of a violent soreness of the abdomen. She vomited some bile several times this morning. The irritation of the uterus most probably produced the sickness by sympathy. The head was but slightly affected. The pulse at 80. Directed her to continue her anodyne draughts three times a day, each containing gtt. xxv. tincturæ opii, and to remove the abdominal affection, the cathartic draught was repeated. On the morning of the 8th, I visited her again. She passed a quiet night; the soreness of the abdomen nearly removed; the bowels quite regular; head very little affected; the vomiting still continuing at intervals. The prescription below was taken:

℞ Carbon potass. ʒij.
Tinct opii ʒj.
Misturæ camph. ℥ij. M. ft. mistura cujus sumat cochlear. ii. major. 4tis horis, cum cochlear. i. mag. succi limon. incipiente ebullitione.

Notwithstanding there was a considerable quantity of bile regurgitated into the stomach, from the violent action of the system, still there is no doubt that the effects of the opium rendered the digestive organs somewhat torpid; a circumstance that frequently occurs, when it is necessary to persevere in it for any length of time. With the intention of restoring it to its pristine state, the mixture in the act of effervescence was directed to be taken. On the 9th the head was perfectly easy; passed a quiet night: the nausea nearly subsided. Pulse at 70, and rather full. Ordered her to continue the saline mixture three times a day. Appears to recover rapidly. On the 10th the nausea and vomiting completely removed. Pulse natural, and in fact she appears perfectly well; not the least debility existing, notwithstanding the quantity of blood abstracted.

It may not be improper to observe, about two months previous to this attack, she was affected in a similar manner. A draught composed of gtt. xl. tinct. opii, and blood-letting to 12 ounces, afforded instant relief; and she continued perfectly well, until the affection now detailed. As the quantity of opium in this instance was much greater than what is generally given, the subjoined table, as to the manner and quantity administered from the 5th of June to the 8th, probably may not be uninteresting.

The exact particulars are as follows, taken from my day-book:

On the 5th June.	*Tinctur.*	*Gum.*
From 8 P. M. to 12	gtt. 160	grs. —
12 to 4 A. M.	320	12
4 A. M. to 7	180	6
7 to 11 P. M.	180	9
11 P. M. to 7 A. M. of the 6th	180	12
On the 7th	85	—
On the 8th	60	39 grains of solid opium.
	1165 drops of the tincture.	

The first day she became indisposed, 840 drops of the tincture, and 27 grains of the solid gum, were administered.

Remarks.

My only object in forwarding this case for publication is, to prove how far the depleting and opiate plan may be carried, without injuring the constitution. The quantity of blood abstracted, and opium taken, really appears to be enormous; but it is evident to me, that, if this plan had not been persevered in to the extent mentioned, dissolution must certainly have been the consequence—most probably from too great a determination of blood to the head. I was fully aware, where spasm and pain existed, that opiates might be given in considerable quantities, without affecting the system in any other way than alleviating the misery the patient laboured under, as is conspicuous in this instance. Although my patient had taken 840 drops of the tincture, and 27 grains of the gum, the first day of the attack, it neither affected the head nor constipated the bowels, so long as the irritation remained; so soon as that was alleviated, it instantly operated on both. Opium, when taken where there is excessive irritation, does not produce that constipation, (that generally affects the bowels when the system is labouring under a disease where irritation does not exist); it operates as a specific stimulus, and generally destroys the excitement, without producing vertigo, or any other unpleasant affection. In this instance the quantity exceeded all I have ever seen or read of; but, as the case terminated favourably, it proves the plan may be extended much farther than is generally pointed out on such occasions.

On the 29th of the same month (June) I was desired to revisit the above patient. It was 11 A. M. and I found that premature labour was approaching from the dilatation of the os tincæ; pains coming on regularly, and at proper intervals; but as there was considerable rigidity in the uterus, the labour did not make much progress, and nothing could possibly be done except waiting for the operation of nature. At one o'clock, I could perceive the uterus had dilated considerably since I examined her before; and at three P. M. labour had advanced so far, that the head rested on the perinæum. Still a great rigidity remained, and a considerable disposition in the uterus to contract. After remaining nine hours in this state, without making the least progress, and as her pains were in a great measure abated, the pulse sinking, I thought myself justified in using art to assist nature in her efforts; consequently, at midnight, I applied the forceps, and the head was delivered in about ten minutes. After this was effected, the pains began to return, from the stimulus the uterus had received, when I endeavoured to extract the body. I found it was utterly impracticable, owing to the violent contraction of the uterus on some part of the child. Still willing to give nature a chance to exert her own powers, I waited three hours without using any extension, concluding the womb would relax and expel the fœtus. At the expiration of the above time, I gave her two grains of the gum. opii, with an intention of obtaining a relaxation of the uterus. Some hours after this was administered, I endeavoured to make a gentle extension, which proved to be fruitless. No doubt existed in my own mind but what this was an hour-glass contraction, so frequently spoken of by lecturers, and so seldom met with in practice. When the child was delivered, my idea proved correct, as the difficulty was from its contracting on the buttock of the child. As my patient's situation at this time was very precarious, and considerable weakness existed, I consulted with a medical neighbour. After sufficiently considering the case, he was of my opinion, that it was impossible to deliver at this time by extension, as the contraction remained with equal violence. Had we so proceeded, a laceration of the uterus would most probably have been the consequence; consequently I proposed to administer gtt. cl. of tinctura opii, which was given immediately, and suffered her to remain quiet. The effects of the opiate procured sleep, and after remaining in that state two hours, labour-pains returned, and instantly expelled the fœtus. Nothing remarkable occurred after delivery. She was treated in the usual manner, and is now perfectly restored.

The power opium possesses over the uterus is really surprising. In a few hours it alleviated all the excitement, and rendered the labour manageable. Depletion would have been used in this instance, had it not been for the great quantity of blood abstracted in her former attack. The contraction in this case was more violent than I ever saw or met with in any of my medical researches. The disposition which the uterus evinced to contract at so early a period, struck me forcibly as indicating that the case would be difficult and laborious; and had it not been for the repeated depletion, in all probability it would have proved more obstinate, and of an unfavourable termination.

July 12, 1815.

X.

Two Cases of Wounded Artery in Venesection cured by Compression. By C. K. Crawford, Surgeon, R. N.

While I was surgeon of the Venerable, under Admiral Durham, two cases of puncture of the brachial artery in bleeding at the bend of the arm occurred, which are to me the more remarkable, as they happened in my own hand, and are the only cases of the kind I have ever seen. They both healed by adhesion of the lips of the wound in the artery, without any communication betwixt the vein and artery being left, or obliteration of the cavity of the artery.

The first was William Robinson, a seaman, who had been shot in the head by a musket-ball in the action with the French frigate Alcmene. Wishing to take a quantity of blood from his arm by a large orifice, I took the lancet out of the hand of my assistant, and incautiously dilated a small opening which he had made in the vein. The surgeon of the naval hospital at Barbadoes, who was present, remarked that I had wounded the artery. I did not think I had done so at first, but was soon convinced it was the case, as well from the situation of the artery, as the two currents of different coloured blood that issued from the wound, that from the artery coming *per saltum.* The stream from the vein being stopped by pressing beneath the orifice, pressure on the superior part of the arm stopped the discharge from the artery.

The wound in the artery was oblique, and perhaps more than the sixth of an inch long. After the quantity of blood intended was taken away, the edges of the wound were brought together, and retained by the adhesive strap; a firm compress of four or five folds of calico, about two inches long, and less than half an inch broad, applied over the straps, as nearly in the direction of the course of the artery as possible, and a bandage put on with the necessary degree of tightness.

My intention in this, which seemed by the event to be fully answered, was to make such a degree of pressure on the upper side of the artery, as to bring it into the state of its greatest possible contraction, and prevent entirely its dilatation by the motion of the blood. By this means the side of the artery was prevented from moving, and rendered quiescent; and the lips of the wound kept in contact, and in a favourable state for union by adhesion, without the circulation in the arm being thereby materially injured. I ordered the arm to be kept quiet, suspended in a sling, and the bandage occasionally damped with cold water.

He complained of a little pain for a few days, from the tightness of the bandage, and a slight inflammation of the external lips of the cut. It healed in a short time without any farther trouble, or being attended with any bad consequence whatever. He is at present cook of the Palma frigate.

The second case is that of a black boy, betwixt 12 and 14 years of age, one of the Admiral's servants. He was very much afraid of being bled; I had him so secured that he could not withdraw his arm from me. But, on feeling the lancet enter his skin, he started, and, pushing his arm forwards, caused me to make a larger and deeper wound than I intended.

The artery, which lay nearly underneath the vein, was wounded. This cut was also in an oblique direction, and, from the quantity of blood that issued out at a time, the orifice in the artery seemed to be much larger than in the former case.

The same precautions were taken in this as before. In a few days, when he was almost well of his original complaint, being of a very lively disposition, and not easily confined, he got playing about the decks, and making use of the arm, from which, together with the tightness of the bandage, his fore-arm and hand swelled, and became very hot, and painful.

By confining him more rigidly, using a saturnine lotion, and some other parts of the antiphlogistic regimen, this soon subsided. It was, however, near two weeks before I could suffer him to use his hand freely; and even after that, he said he felt it a little painful and weak, though the orifice was closed, without leaving any communication that I could ascertain, between the artery and vein, or any obliteration of the canal of the artery.

XI.

Appearances on Dissection, in a Case of Humoral Asthma. By C. K. Crawford, Surgeon, Royal Navy.

The following appearances on opening the trunk of a patient I had the misfortune to lose in humoral asthma, may be interesting, on account of the diseased appearances in that complaint being very little known.

The patient was a man of about fifty years of age, of a slender make, and narrow chest. He had been a long time at sea, and spent the best part of his life in the navy. He complained, shortly after I joined the Pique at Barbadoes, in the beginning of June 1814, of having been for about three weeks troubled with shortness of breath and cough, which came on by fits, and was then worse than it had lately been.

By being bled, and taking an emetic, he was relieved, and enabled to do his duty as a quarter-master. He did not again complain, except of the cough, which affected him at intervals, and for which he took expectorating and mucilaginous medicines, until, after leaving Halifax in Nova Scotia, we were cruising about the banks on the coast of America, Newfoundland, &c. The weather being cold, and the atmosphere loaded with moisture, proved too much for his worn-out constitution. He died on the 11th September, notwithstanding every exertion we could make in his behalf.

He did not throughout the disease complain of much pain in his chest, but of a tightness; and his great complaint was, the difficulty he felt in fetching a full inspiration, and a sense of suffocation, attended with a whizzing noise. The fits mostly came on in the afternoon or night, and generally lasted a few hours, during which he could scarcely breathe, speak, or cough until he began to spit, and then he soon got relief. If he happened to be in bed at its commencement, he had to get up immediately, for fear of suffocation. In the latter part of his disease, when he had a blistering plaster on his breast, he made his water involuntarily. He was treated with bleeding while his blood appeared inflammatory; blisters on his breast kept almost constantly open; emetics, expectorants, antispasmodics, and the digitalis, were used for a short time, but without any benefit.

On opening the abdomen, the muscular parietes were thick and strong, for a man of his slender make. The fat in the adipose membrane not being nearly so much exhausted as his emaciated appearance seemed to indicate.

There was no fat in his omentum. His liver, stomach, and intestines, were in a sound state. The stomach and intestines distended with air. In the rectum there were some feces of a natural consistence. The spleen was of a pale colour, and firm texture. The bladder was thickened and contracted, containing a small quantity of high coloured urine. The kidneys were large, but healthy. The diaphragm was very concave towards the abdomen.

The cartilages of the four lower true ribs were ossified, and those of the upper of a very firm structure. The whole parietes of the thorax seemed very rigid, strong, and not well adapted for free motion. The heart was large, and of a pale colour. The right lung, except a small portion of the superior part of the upper lobe, adhered to the pleura costalis, and, from its texture, seemed to be entirely useless. There was neither air in its cells, nor blood in its vessels. It was of a pale grey colour, and collapsed into a small space.

The cavity of the right pleura seemed diminished by the great convexity of the diaphragm towards the thorax, and the mediastinum being pushed from its natural position more towards that side. The remainder of the cavity that was not occupied by the lung was filled with cellular substance.

The whole of the left lung, and small portion of the right mentioned above, were of a dark liver colour, without adhesion. On cutting into their substance, a great quantity of frothy phlegm, intermixed with a dark-coloured blood, issued out. Their whole substance seemed to be as completely filled with this fluid as a sponge well soaked in water, and it ran out in a stream, without pressure, on merely making an incision with the knife.

The pleura costalis, except at the place of adhesion, was natural, nor was there any water in the cavities of the thorax.

The trachea appeared very vascular, and on its anterior side, within the thorax, there were, betwixt its cartilage rings, portions of imperfect rings of extravasated blood in the state of coagulation.

MEDICAL EXTRACTS. No. IX.

An Analysis of the Mineral Waters of Dunblane and Pitcaithly; with general Observations on the Analysis of Mineral, and the Composition of Bath Water and some others. By JOHN MURRAY, M. D. F. R. S. Edinburgh.

(See Transactions of the Royal Society of Edinburgh, Vol. VII. Part II. p. 411.)

THE essay of Dr Murray deserves to be very generally studied by professional men; but very few of them can have an opportunity of reading it in the philosophical work in which it is published. We therefore feel a pleasure in being able to give it greater publicity; and only regret that its great length obliges us to omit some parts, and abridge others.

Dr Murray was led to these considerations in consequence of analysing the mineral waters of Dunblane and Pitcaithly, both in Perthshire. The very ingenious method of performing these analyses, and the curious chemical views stated in regard to the methods of analysing mineral waters in general, are highly interesting to the chemical student; but we must content ourselves with extracting the results obtained from a pint.

	Dunblane.		*Pitcaithly.*	
	North Spring.	South Spring.		
Atmospheric air,	.	.	0.5	
Carbonic acid gas,	.	.	1.	cubic inch.
Muriate of soda,	24	22.5	13.4	grains.
——————lime,	18	16.	19.5	
Sulphate of lime,	3.5	2.3	0.9	
Carbonate of lime,	0.5	0.3	0.5	
Oxide of iron,	0.17	0.15	trace.	
	46.17	41.25	34.8	

"It is a question not unequivocally determined, and perhaps not capable of being determined, in what state the saline ingredients of a mineral water exist,—whether the acids and bases are in those binary combinations which constitute the different neutral salts, or whether they exist in simultaneous combination, the whole acids being neutralized by the whole bases. If the former, which is the more common, and perhaps the more probable opinion, be adopted, it is at least certain, that the state of combination may be modified by the analytic operations, and that the binary combinations obtained by these may not be precisely those which existed in the water. In the case of the Dunblane water, for example, the ingredients obtained are muriate of soda, muriate of lime, and sulphate of lime. Now, it is possible that the sulphate of lime may be a product of the operation, not an original ingredient. The sulphuric acid may exist rather in the state of sulphate of soda, and when, in the progress of the evaporation, the liquor becomes concentrated, this salt may act on a portion of the muriate of lime, and, by mutual decomposition, form corresponding portions of muriate of soda, and sulphate of lime.

"A question of this kind is not merely one of speculation, but the solution of it may sometimes throw light on the properties of mineral waters, particularly on their powers of affecting the living system. The present affords a very good example of this. Sulphate of lime is a substance apparently inert. If it exist, therefore, as such in water, it can contribute nothing to its efficacy. But in the other state of combination which is supposed, both the quantity of the muriate of lime, the more active ingredient, will be greater, and the presence of sulphate of soda will in part account for the purgative operation which the water exerts.

"There is no very direct, and perhaps no decisive experiment, by which this question may be determined; for any method which would cause the *separation* of either substance as a binary compound, may also be conceived to operate by causing its *formation*."

Dr Murray then gives some arguments in favour of his opinion.

"These results do not absolutely establish the conclusion, that the sulphuric acid exists in this water in the state of sulphate of soda; yet, on the whole, this is the more probable opinion. If it be admitted, the preceding statement of the ingredients, and their proportions, must be altered. The sulphate of lime is of course to be omitted. The sulphate of soda, which is to be substituted for it, cannot be obtained by any method; but the quantity of it may be inferred, from the quantity of sulphate of lime which is formed by its action on the muriate of lime. Real sulphate of lime, and real sulphate of soda, are very nearly equivalent to each other with regard to the proportions of their acid and base; so that the quantity of the one may nearly be substituted for that of the other; 3.5 of sulphate of lime being equal to 3.7 of sulphate of soda. But this sulphate of lime is formed at the expence of a portion of muriate of lime, and its formation is accompanied with the production of a little muriate of soda; hence the proportion of the former must be a little larger, and that of the latter a little smaller, than have been before stated. 3.5 grains of sulphate of lime are equivalent to 2.8 of muriate of lime, which quantity, therefore, is to be added to the proportion above assigned. The equivalent portion of muriate of soda to be subtracted is 3. The whole proportions, therefore, will be the following:

Muriate of soda, - -	21 grains.
Muriate of lime, - -	20.8
Sulphate of soda, - -	3.7
Carbonate of lime, - -	0.5
Oxide of iron, - - -	0.17
	46.17

"The quantity of sulphate of lime obtained in the analysis of the Pitcaithly water, being so much smaller than that in the Dunblane, it may perhaps be considered as an original ingredient; or, if even the opposite view be adopted, the change in the proportions, as indicated by the analysis, is much less. They may be stated as follow:

Muriate of soda, - -	12.7 grains.
Muriate of lime, - -	20.2
Sulphate of soda, - -	0.9
Carbonate of lime, - -	0.5

"Sulphate of lime has been often stated as an ingredient existing in mineral waters, with muriate of soda and muriate of lime. It is almost superfluous to remark, that it is probable the original ingredients, in all such cases, are sulphate of soda and muriate of lime, and that the sulphate of lime is a product of the operation, or rather, that the portion of it equivalent to the quantity of muriate of soda, has this origin.

"It is a curious fact, which strongly confirms this, that in almost all the analyses of mineral waters since the time of Bergman, when they can be presumed to have been executed with any precision, where sulphate of lime is an ingredient, muriate of soda is also present. It is obvious, that, if the sulphate of lime has this origin, muriate of soda must also be formed. On the other hand, in the greater number of those analyses in which muriate of soda is an ingredient, we find also sulphate of lime; and, with the exception of the water of Harrowgate, sulphate of lime is always present, where muriate of soda and muriate of lime are conjoined.

"But the principal interest belonging to this view, is derived from its relation to a question which has often been brought under discussion,—Whether chemical analysis is capable of discovering the sources of the medicinal virtues of mineral waters? This question some have been disposed to decide in the negative, from finding examples of waters possessed of active powers, in which analysis does not detect any ingredients of adequate activity.

"On the general question, the remark by Dr Saunders is perfectly just, that, 'considering the comparative accuracy to which chemists are at present able to carry their inquiries, we can hardly suppose, that whatever slight error might occur in the estimation of minute quantities, the actual existence of any powerful agent on the human body, in any mineral water, should escape the nicety of research.' Yet though this is just, and though we can have no hesitation in rejecting the opinion which would ascribe the medicinal qualities of mineral waters to unknown or mysterious causes, or which would deny all power to those in which an active chemical composition cannot be discovered, difficulties on this subject undoubtedly exist, and there is some room for that scepticism which has been extended to this department of the Materia Medica.

"Of this no better example can be given, than the celebrated Bath water. It has always been found difficult to account for its powers, the ingredients which are obtained in its analysis being substances of little activity, and the principal ones, indeed, being apparently inert. It contains in an English pint, along with a slight impregnation of carbonic acid, about 9 grains of sulphate of lime, 3 grains of muriate of soda, 3 grains of sulphate of soda, $\frac{8}{10}$ths of a grain of carbonate of lime, $\frac{1}{5}$th grain of silica, and $\frac{1}{10}$th grain of oxide of iron. Now, from these ingredients unquestionably no medicinal power of any importance could be expected. They are either substances altogether inert, or are in quantities so minute, as, in the dose in which the water is taken, to be incapable of producing any sensible effect. Some have from this circumstance been disposed to deny altogether any virtues to these waters; but the reverse of this appears to be established by sufficient evidence, and what is still less equivocal, the injurious effects they sometimes produce, and the precautions hence necessary in their use, sufficiently demonstrate their active powers. To account for these, therefore, various hypotheses have been proposed. The observation has been urged, which, to a certain extent, is undoubtedly just, that substances given in small doses in a state of great dilution, may, from this dilution, produce more effect on the general system than the quantity given would lead us to expect. The temperature of the water, too, it has been supposed, may have a considerable share in aiding the effect; and these two circumstances in particular, it has been imagined, may favour the action of the iron. This is the view of the subject given by Dr Saunders, in his Treatise on Mineral Waters. Some of the other ingredients, too, it has been supposed, may exert unknown powers. Thus, some effect has been ascribed to the agency of the nitrogen gas which rises through the water. And Dr Saunders himself, apparently not very well satisfied with the reasoning he had employed, allows some weight to the opinion suggested by Dr Gibbes, that the silicious earth assists in the general effect of the Bath waters;—remarking, that though there is only half a grain of it in a pint of the water, this forms no objection, when the great powers of very minute quantities of active substances are considered; that neither is its insolubility in the animal fluids an objection, as it exists in the water in a state of solution; and that, though it has neither taste nor smell, it may be an active substance, since there are indisputably powerful medicines, which have little of either of these qualities.

"All this, it is superfluous to observe, is extremely unsatisfactory. With regard to the iron, the only active substance,—allowing full weight to the observations, that small quantities of active medicines, under great dilution, operate with increased power, and that a high temperature may aid their operation on the stomach,—still we cannot believe that one-sixtieth of a grain, the quantity in a pint of this water, can produce any important medicinal effect. And, with regard to the other substances, the reasoning whence their possible operation has been inferred, instead of removing the difficulty, rather places it in a clearer light.

"The view of the constitution of mineral waters stated above, enables us to assign to the Bath water a much more active chemical composition. There is every probability that muriate of lime is its powerful ingredient. The principal products of its analysis are sulphate of lime, muriate of soda, and sulphate of soda. The proportion of sulphate of lime is such, that part of it must pre-exist in the water, but part of it, there is reason to conclude, is a product of the analysis; the muriate of soda is entirely so, and the quantity of sulphate of soda is larger than what the analysis indicates. In other words, there exist in it muriate of lime, sulphate of soda, and sulphate of lime, and, during the evaporation, the muriate of lime being acted on by a portion of the sulphate of soda, muriate of soda and a corresponding portion of sulphate of lime are formed.

"On this view of the composition of the Bath water, it is easy to assign the proportions of the ingredients, from the products which are obtained in its analysis. In the formation of 3.3 grains of muriate of soda, which is the quantity obtained from a pint of the water, 3.1 grains of muriate of lime must be decomposed: 4 grains of sulphate of soda would be required to produce this decomposition; and, at the same time, 3.8 grains of sulphate of lime would be formed.

"The latest, and no doubt the most accurate analysis of the Bath water, that by Mr Phillips, gives the following view of its composition :

In an English pint	Carbonic acid, - - -	1.2 inches.
	Sulphate of lime, - -	9 grains.
	Muriate of soda, - -	3.3
	Sulphate of soda, - -	1.5
	Carbonate of lime, - -	0.8
	Silica, - - - - -	0.2
	Oxide of iron, - - -	$\frac{1}{68}$ grain.

But, considering the composition according to the preceding view, the ingredients and their proportions will be,

Carbonic acid, - - -	1.2 inches.
Sulphate of lime, - -	5.2 grains.
Muriate of lime, - -	3.1
Sulphate of soda, - -	5.5
Carbonate of lime, - -	0.8
Silica, - - - - - -	0.2
Oxide of iron, - - -	$\frac{1}{68}$ grain.

"The peculiarity in the composition of the Bath water, compared with the greater number of saline mineral waters, is, that it contains a larger quantity of sulphate of soda than is necessary to convert its muriate of lime into sulphate of lime. Hence no muriate of lime is obtained after evaporation in its analysis; hence even a portion of sulphate of soda is indicated; and hence the large proportion of sulphate of lime which that analysis yields. In the Dunblane and Pitcaithly waters, the sulphate of soda is deficient; the muriate of lime is in large quantity, and is accompanied with muriate of soda; hence the entire want of sulphate of soda, the small quantity of sulphate of lime, and the large proportion of muriate of lime in their analyses.

"Muriate of lime, it is well known, is a substance of considerable power in its operation on the living system; in quantities which are even not large, it proves fatal to animals. When taken to the extent of six grains, the quantity of it which, according to the preceding view, exists in a quart of the Bath water, it cannot be inactive. It is very probable, too, that a given quantity of it will prove much more active in a state of great dilution in water, than in a less diluted form; as, in this diluted state, it acts, when received into the stomach, over a more extended surface; and, besides this, whatever effect may be due to the high temperature of the Bath water, in aiding the operation of the minute portion of iron it contains, the same effect must be equally obtained in aiding the operation of the much larger quantity of muriate of lime. The conclusion, indeed, as to the importance of this effect, is much more probable with regard to the muriate of lime, than to the iron; for, supposing the quantity of the former to exist in the Bath water, which has been assigned, the dose of it taken in a quart of the water, is not far from its proper medium dose, and is at least equal to one-half the largest dose which can be given, and continued without producing irritation; while the dose of the iron is not the one-hundredth of that which is usually prescribed. Under the circumstances, therefore, in which the muriate of lime is presented in the Bath water, it is reasonable to infer that it must be productive of considerable immediate effect.

"The speculation is farther not improbable, that, to produce its more permanent effects on the system as a tonic, it is necessary it should enter into the circulation. In a dilute state of solution, it may pass more easily through the absorbents; while, in a more concentrated state, it may be excluded, and its action confined to the bowels. Hence the reason, perhaps, that in some of the diseases in which it is employed, scrofula particularly, it has frequently failed, its exhibition having been in doses too large, and in too concentrated a form. And hence it is conceivable, that in a more dilute state, as that in which it may exist in the Bath water, besides its immediate operation, it may produce effects as a permanent tonic, more important than we should otherwise expect.

"I may add, that the iron in the Bath water is probably not in the state of oxide or carbonate, as has been supposed, but in that of muriate. The muriate is the most active preparation of iron, and so far, increased activity may be given to the slight chalybeate impregnation; and some modification of power may even be derived from the combined operation of muriate of lime and muriate of iron.

"It deserves to be remarked, that, in the most essential ingredients, the muriate of lime and the iron, the Dunblane and Pitcaithly waters are similar to the Bath water, only with regard to the former ingredient much stronger; the other differences are unimportant; the larger quantity of sulphate of lime, and the small quantity of silica in the latter, cannot be supposed to contribute anything to its medicinal operation; the difference in the proportion of sulphate of soda is trivial, and the larger proportion of muriate of soda in the other waters, may rather be an advantage, rendering them more agreeable to the taste and the stomach. The principal difference will therefore be that of strength with regard to the most active ingredient, the muriate of lime. The quantity of this is so large, that the tonic quality of the Dunblane or the Pitcaithly waters can scarcely be observed, and perhaps even scarcely obtained; their action being more peculiarly on the bowels. It is accordingly as a saline purgative that the Pitcaithly water has been celebrated; and it is principally in those diseases in which this effect is sought to be obtained, that it has been used. The Dunblane water, from the similarity of its operation, would no doubt be employed in diseases of a similar kind. But whatever advantage might be derived from this purgative effect, it cannot fail to be perceived, that a different operation, not less useful, may be obtained from them. If sufficiently diluted, so as to avoid altogether the operation on the bowels, the stimulant operation on the stomach and general system might be exerted by these waters, similar to that of the Bath waters, and under this form they might prove useful in diseases very different from those in which they might otherwise be employed. As they would require, too, large dilution to reduce them to this state, the temperature of the Bath water might easily be given, by adding the requisite proportion of hot water, by which a greater similarity of operation would be obtained. And the Dunblane water in particular, containing so much larger a proportion of iron than the Bath water does, the dilution requisite to give it the same strength, with regard to the muriate of lime, would still leave an equal degree of chalybeate impregnation. If the preceding observations, therefore, are just, the Dunblane and Pitcaithly waters may be converted, in all the essential parts of the chemical composition, into a water similar to that of Bath.

"From the preceding statement of their composition, it is easy to discover how this may be done. To give the same proportion of the principal ingredient, the muriate of lime, the Dunblane water would require to be diluted with from six to seven parts of pure water; the same degree of dilution would bring it to nearly the same strength with regard to the iron; if a pint of it were diluted with this proportion of water, about 35 grains of sulphate of soda would require to be added, to render the composition, with regard to this ingredient, perfectly alike, if this were thought essential. The only remaining differences would then be, the presence of about 2.8 grains of muriate of soda in each pint of the reduced Dunblane water, the deficiency of 5.5 grains of sulphate, and 0.7 grain of carbonate of lime, and the absence of 0.2 grain of siliceous earth, differences in all respects probably of no importance whatever. The simple expedient, indeed, of diluting one part of the Dunblane water with from six to seven parts of warm water, (or if the sulphate of lime in a state of solution should be supposed to be possessed of any active power, with four or five parts), and adding, if the chalybeate impregnation were not found sufficiently active, a few drops of tincture of muriate of iron, would probably serve every purpose. And if sufficient confidence could be given to the substitution on the part of those employing these waters medicinally, the Dunblane water, thus altered, might probably be taken with as much advantage as the Bath water in the diseases in which it has been found useful.

"It is obvious, too, that if the artificial preparation of the Bath water were attempted, it could be done much more easily according to this view, than by endeavouring to dissolve the actual products of its analysis, which, indeed, it would be impracticable to do. Muriate of lime, and sulphate of soda, dissolved in water of the due temperature, with the addition of a minute portion of muriate of iron, would probably afford a composition approaching as nearly to the natural composition, as is either practicable or necessary in the imitation of any mineral water."

In the latter part of this valuable paper, Dr Murray takes a similar view of some other mineral waters.

The analysis of Cheltenham water "affords sulphate of soda, sulphate of magnesia, and sulphate of lime, with muriate of soda, muriate of magnesia, carbonate of magnesia, and oxide of iron. There is no just reason, however, to infer with certainty, that all these are its real ingredients. It is as probable, and, indeed, more so, that, previous to the evaporation by which they are obtained, it contains muriate of lime, which being acted on by the sulphate of soda, forms muriate of soda, and sulphate of lime. It is even not improbable, that the carbonate naturally existing in the water is not carbonate of magnesia, but carbonate of soda.

"The water of Harrowgate affords in its saline ingredients another illustration of the same views. The principal ingredient is muriate of soda, with which are present muriate of magnesia, muriate of lime, sulphate of magnesia, carbonate of magnesia, and carbonate of lime. Now, nothing is more probable, than that the two last substances are not original ingredients, but are products of the analysis, formed by the action of carbonate of soda existing in the water on portions of its muriate of magnesia and muriate of lime, whence also the quantity of muriate of soda is increased."

Seltzer water, "according to Bergman's analysis, contains in an English pint,

Carbonic acid gas, - - -	17 cubic inches.
Carbonate of lime, - - -	3 grains.
Carbonate of magnesia, - -	5 ——
Carbonate of soda, - - -	4 ——
Muriate of soda, - - - -	17.5 —

"But adopting the opposite view, the composition, so far as the uncertainty of the state of the products, to which Bergman's estimate is referred, admits of calculating the proportions, will be,

Carbonic acid gas, - -	17	cubic inches.
Muriate of lime, - - -	3.3	grains.
Muriate of magnesia, -	5	——
Muriate of soda, - - -	7.8	——
Carbonate of soda, - -	10.3	—— dry, or 18 crystallized.

"This view of the composition of this water, accords much better than the other, both with its sensible qualities, and its medicinal powers. Its taste, after the carbonic acid has escaped from it, on exposure to the air, is rather strongly alkaline, which would scarcely be the case, if it contained only four grains of crystallized carbonate of soda in a pint, but which is to be expected if it contain eighteen grains. It operates as an antacid and diuretic, and is productive of much benefit in all dyspeptic affections, in diseases of the urinary organs, and in those general affections of the system which require a mild tonic power. There are few mineral waters, Dr Saunders observes, which have acquired a higher reputation; and there are few, he adds, that deserve greater consideration, from the real medicinal virtues it possesses. It will be difficult to give a satisfactory account of the origin of these virtues, if we regard it as water impregnated with carbonic acid, holding in solution so minute a portion of carbonate of soda, with the larger proportions of muriate of soda and carbonates of magnesia and lime. But if we consider it as containing along with its free carbonic acid, a considerable quantity of carbonate of soda, with smaller proportions of muriate of soda, muriate of magnesia, and muriate of lime, we assign to it a composition of much greater power, and adequate to account for the effects it produces. Such is the activity of this water, that its medium dose is only half an English pint, a degree of power which accords much better with the one view of its composition than with the other."

It is impossible to read these extracts attentively, without being struck with the truth of the views they contain, and the light they throw upon many facts in regard to the action of mineral waters, which have hitherto remained unexplained. We have always considered the change of air, temperate regimen, freedom from care, and pleasant society, to which the advantage of residence at our various watering places has been ascribed, as inadequate to explain the effects of the waters, compared with the ingredients obtained by analysis, especially when we consider that these effects were, to a certain degree, obtained by the waters bottled, carried to a distance, and used without any of these subsidiary aids. But now, when we see that these very ingredients, which were considered as the most inert, are converted, by Dr Murray's discernment, into the most active, the cloud which veiled our conception is removed, and everything seems so plain and simple, that we only wonder that it ever escaped observation.

Dr Murray's view of the composition of mineral waters does not diminish the value of those analyses which have been accurately made; but it will require them to be subjected to such a calculation, as he has exemplified in several instances, in order to have a clear view of their constituents. It has, however, occurred to us, that the best tabular form of the composition of mineral waters would be to state the quantity of each ingredient separately, as if they existed in simultaneous combination, thus:

Carbonic acid gas.
Carbonic acid.
Sulphuric acid.
Muriatic acid.
Soda.
Lime.
Magnesia, &c.

PART II.

CRITICAL ANALYSIS.

I.

A Treatise on the Diseases of Arteries and Veins, containing the Pathology and Treatment of Aneurisms and Wounded Arteries. By JOSEPH HODGSON, Member of the Royal College of Surgeons, London. London, 1815. 8vo, pp. 603.

Engravings intended to illustrate some of the Diseases of Arteries, accompanied with Explanations. By JOSEPH HODGSON, Member of the Royal College of Surgeons, London. Folio, 1815.

THE Royal College of Surgeons in London proposed, as the subject of the Jacksonian Prize for the year 1811, "Wounds and Diseases of Arteries and Veins." There was much propriety in the selection of this most interesting subject; for there is not, perhaps, any other in which the superiority of modern surgery stands more highly displayed; and certainly there is no one in which the skill, enterprise, and science of British surgeons have been more successfully exerted than this. Indeed, we hardly know anything more brilliant in the history of surgery, than the improvements which have been made, in our own days, by British surgeons, on the operations and treatment of aneurisms, and of wounded arteries. So lately as when we first began our studies, surgeons still hesitated to tie up the main trunk of an artery in the extremities,—and when the necessary attempt proved successful, instead of reckoning their success a thing of course, and referable to the wise and almost unerring provision which nature had made for continuing the circulation in the limb, by the collateral and anastomising vessels, they conjectured only the existence of a lusus, or higher division of the arterial trunk.

Of the causes of secondary hæmorrhage, of the process of nature in the cure of opened arteries, and of the effect of the ligature which they daily used, their conceptions were still crude and imperfect. We have, not long since, known tapes nearly an inch broad applied to the artery in aneurism, in the fear that such ligatures as the surgeon trusted to in his ordinary operations, should cut and ulcerate the vessel; not to speak of the *serre arteres*, and other ingenious pieces of mechanism for keeping the sides of an artery in compressed and flattened apposition, with which the French and Italian surgeons are still amusing themselves.

The British surgeon now knows so well the powers and resources of nature, that there is not an arterial trunk within his reach that he has hesitated to tie; and he has thus successfully thrown a slight and single ligature round the femoral, the carotid, the external, and even the internal iliac artery. He knows now, that a large, broad, and flattened ligature is the worst, precisely for that reason, on account of which it had been thought the best and most secure; and that one of the reasons, for which he now employs a small thread, is to cut and wound the artery, he was formerly so anxious to save. He has ascertained, that, by this division of the internal coats of the artery, it becomes permanently closed and cicatrized by adhesive inflammation; that everything which interferes with this process, and which, instead of it, has a tendency to produce the suppurative or ulcerative inflammation, becomes a cause of secondary hæmorrhage; and, therefore, that the vessel must be separated as little as possible from its attachments; that no foreign body must be interposed for greater security; that the ligature itself should be small, that it may, as a foreign body, offend the least possible; he cuts off one end of it to lessen its bulk still farther; he has even risked cutting away both ends close to the knot, and closing the external wound over it; and he has talked of removing the entire ligature almost as soon as he has tied it, believing that its principal use has been effected when it has divided the coats of the artery, and produced in them a disposition to adhesion. Lastly, instead of slitting open the aneurismal tumour, as was the general practice little more than twenty years ago, he simply secures the artery at some distance above the tumour, and the direct impulse of the circulation being thus interrupted, he trusts to the establishment of a new and devious circulation, and to the consequent condensation and absorption of the aneurismal contents. To all these improvements, British surgery has almost an exclusive claim; and the

Jacksonian prize was adjudged by the Royal College to Mr Hodgson for an Essay, which has laid the foundation of the very excellent treatise now before us. In separate parts, the author treats in succession, 1*st*, of the diseases of arteries in general; 2*d*, of aneurism; 3*d*, of wounded arteries; and 4*th*, of the diseases of veins. Besides being the subject of inflammation, ulceration, and sphacelation, like other structures, the arteries are liable to other and peculiar morbid changes, to cartilaginous and steatomatous thickenings of their internal coat, and to a deposition of atheromatous and calcareous matter. And these changes are very commonly the forerunners of the more formidable disease of aneurism. But, before entering on the subject of aneurism proper, Mr Hodgson directs our attention to the cases of preternatural dilatation of the arteries. This disease is different from aneurism, as all the coats of the vessels are uniformly dilated, without any breach of their continuity. Its most frequent seat is the ascending portion, and arch of the aorta, though it has been observed in the thoracic and abdominal aorta, and at the divisions of the carotid and iliac arteries. The pouch or sac which is thus formed, is commonly thickened, and covered with atheromatous and calcareous depositions; but this dilatation seldom if ever is found to contain those lamellated coagula which are so generally discovered in the true aneurismal sac; which last, on the contrary, is not often found interspersed with calcareous or ossific deposits like those pouches or dilatations, in which all the coats of the artery are entire. A true aneurism may be, and sometimes is, found engrafted upon a sac of simple dilatation.

Our readers are aware, that the observations of Scarpa have led to the conclusion, that, in aneurism, the formation of the tumour is preceded by a rupture or breach of the internal and middle coats of the artery, and that the sac is formed by the consequent dilatation of the outer coat, and cellular sheath of the vessel.

After having ascertained the fact, therefore, that the whole circle of an artery is found to be preternaturally dilated, in a great many cases, without laceration or destruction of any of its coats, it seems to us a mere affair of arbitrary definition, whether such cases shall be called aneurism or not; and especially, it seems to us, that Mr Hodgson, after describing this case of preternatural dilatation as a distinct disease, and beginning his section on aneurism with a *definition*, limiting its interpretation to the case in which the internal and middle coats have given way, would have saved to himself, and to his readers, some little confusion, by maintaining this distinction throughout. Instead of which, he resumes the consideration of dilatation with integrity of the coats of the artery, and reasons upon the subject in a way which leaves us, in some degree, at a loss to know whether he would class it with aneurism or not. Thus, he begins with stating the question, "Does aneurism ever consist in a general or partial dilatation of all the coats of an artery, or is it constantly produced by the destruction of all, or most of the coats?"

That disease, indeed, already described by him in a separate section, and said to consist in a preternatural dilatation of the whole circle of an artery, and not in a partial or lateral distension of its coats, Mr Hodgson continues to disunite from aneurism. But the case of a partial dilatation of the coats without rupture, he seems inclined to consider as less separable from ordinary aneurism; and he maintains, that, in a great proportion of aneurisms, the disease has commenced in a partial dilatation of the coats of the artery, although, in the progress of the disease, the internal coats do at length give way. In the generality of cases, indeed, he allows, with Scarpa, that the formation of the aneurismal tumour is preceded by rupture of the internal and middle coats of the artery. But very many, he contends, have their origin in previous, general, or partial dilatation of all the coats.

> "Those aneurisms which are situated at the origin of the aorta, are generally formed by dilatation of the coats of the vessel. The internal surface of the sac, in most instances, exhibits some of those morbid alterations which are peculiar to the internal coat of an artery. The mouth of these sacs is generally larger than any other part of the cavity, and there is not that circumscribed margin between the artery and the sac, which is constantly met with where aneurism is formed by destruction of the coats of the vessel."

Mr Hodgson has seen this partial dilatation, in almost all the arteries which are subject to aneurism. Such dilatations frequently precede the formation of aneurism in the arteries of the extremities. The cases and observations brought forward by Mr Hodgson, as well as the disputes which have always existed amongst anatomists on this subject, leave no doubt as to the existence of these pouches, and dilatations of the coats of an artery without any rupture; and all that our author seems to contend for is, that many aneurisms have their origin in such general and partial dilatation.

> "*1st*, Numerous aneurisms are formed by destruction of the internal and middle coats of an artery, and the expansion of the external coat into a small cyst, which giving way from distension, the surrounding parts, whatever may be their structure, form the remainder of the sac. *2dly*, Sometimes the disease commences in the

tery and the sac contract, until the one becomes an impervious cylinder, and the other a small fleshy tumour.

Thus, where the circulation can be carried on by the collateral branches, a perfect cure of the aneurism is effected, and life is preserved. But, in internal aneurisms, in aneurisms of the aorta, particularly of the arch or ascending portion of that vessel, the completion of this process in all its steps would not be so fortunate. But here nature proceeds no farther than she can be useful; and Mr Hodgson, by a selection of cases and observations has shewn, that a deposition of coagulum may take place in an aneurismal sac to such an extent, as entirely to preclude the communication between its cavity, and that of the artery from which it originates; that a sac thus filled with coagulum, cannot prove fatal by rupture; and that the gradual absorption of its contents, and the consequent contraction of the sac, may proceed to such an extent as to effect a cure of the disease, without any obstruction taking place in the calibre of the vessel from whence it originated.

A true aneurism commonly communicates with the canal of the artery by a small and lateral opening, the aneurismal sac soon begins to exhibit the formation of those deposits of concentric layers of coagulable lymph;—and, by the successive depositions of those layers the sac is strengthened, and, in some cases, filled up and rendered solid; and then the process of condensation and absorption takes place, and an aneurismal tumour, which had risen out of the thorax, beaten furiously, and threatened destruction, gradually retires, and at length disappears. It is consoling to know, that even under such an alarming and generally fatal state of things, there is this chance of escape. The cases reported by Morgagni of the cures performed by Valsalva and Albertini;—those related more lately by Pelletan, and other continental surgeons and physicians, afford examples of this fortunate interruption to the fatal termination of aortic aneurism. Several cases, in illustration of the completion of this fortunate process in different orders of arteries, are related by Mr Hodgson. We select the two following, as having occurred in the aorta itself:—

"A miller, about fifty years of age, had, for five years before his death, been afflicted with severe symptoms of asthma. Various medical men considered him as labouring under that peculiar asthma to which those who follow his occupation are subject. His symptoms, however, were always relieved by copious bleedings. The above was all the information which could be procured relative to his disease, when the body was examined. The lungs were perfectly healthy. A small aneurismal sac originated from the posterior part of the arch of the aorta, close to the root of the arteria innominata. This sac was about the size of a common walnut, and the coats of the aorta were deficient at its base for the space of about the size of a sixpenny piece. The cavity was completely filled with very firm layers of coagulum, resembling more the appearance of boiled muscle than any other substance with which I am acquainted. The opening by which the sac had communicated with the aorta was blocked up by the base of the coagulum, but the cavity of that vessel was not in the least diminished. The tumour adhered posteriorly to the trachea, which was thrust out of its natural position, and had assumed a very remarkable curve, by which its calibre was reduced to one half of the natural dimensions. The coats of the aorta were thickened, and covered with steatomatous and earthy depositions.

"Some years ago, I had an opportunity of examining the body of a young woman who died with an aneurism of the arch of the aorta. The tumour appeared above the sternum, rather on the right side. It was large and pulsating, and her death was hourly expected to take place, from the rupture of the integuments, which were very thin and livid. From the employment of repeated bleedings, rigid abstinence, and quietude, the pulsation in the sac became gradually less violent; its size diminished; it became more solid; and, in short, in a few months she was so far recovered as to be able to resume her former employment. In twelve months she returned, complaining of a constant irritating cough, attended with a copious expectoration of frothy mucus, which, in the course of a few weeks, destroyed her, the tumour at that time being scarcely to be felt above the sternum. Upon dissection, an aneurism was discovered, of the size of a small apple, originating from the anterior part of the arch of the aorta, the pressure of which upon the trachea had produced the fatal cough. This tumour was very solid, and when divided was found to be composed of firm but distinct layers of coagulum, of a whiter and more fleshy appearance than it is met with in recent cases.

"The cavity of the sac had formerly communicated with that of the aorta, by an opening about the size of half a crown, now closed by the base of the coagulum, the surface of which had a smooth and membranous appearance. But the coagulum did not in the least extend into the cavity of the aorta, the calibre of which was consequently not obstructed by the process of cure, which had taken place in the aneurism. The coats of the aorta were thickened, and considerably dilated, particularly at the origin of the arteria innominata, and at the root of the aneurism, which appeared to be formed by the destruction of the dilated coats of the vessel."

As this, then, is the only means by which life can be prolonged in cases of internal or aortic aneurism, the important question arises, how far this natural process can be assisted by medical treatment? And the success which has, at various times, attended that antiphlogistic and depletory treatment which has been called the method of Valsalva, and which consists mainly of repeated blood-letting, holds out to us no inconsiderable conquest. This method has evidently been at first undertaken with the more obvious view of keeping the vessels empty, and lessening the impetus of the circulation upon the aneurismal tumour, and thus postponing at least the fatal rupture of the sac. But in many cases of the result of this treatment upon record, this more obvious indication has not only been answered, but the aneurismal tumour has been observed to subside; to acquire firmness and resistance; to cease to pulsate; and, at length, to retire within the cavity from which it had protruded. We cannot therefore doubt, that, by enfeebling the action of the heart and arteries, and lessening the impetus upon the tumour, we facilitate the deposition of lymph within the sac, thus strengthen its parietes, and eventually promote that process by which the aneurism admits of consolidation and cure. The following case came under our author's observation:

"A soldier, twenty-five years of age, had an aneurism, which pointed on the left side of the chest, near the sternum, in the situation of the fourth and fifth ribs, the cartilages of which were absorbed, and the external tumour was as large as a lemon. The pulsation was extremely violent, and the impediments to respiration were very considerable. Previous to the time when he came into the hospital, he led a dissipated life, and the increase of the tumour had been very rapid. He was repeatedly bled, was placed upon a low diet, and took occasional purges. This plan soon reduced him exceedingly; but, from that time, the tumour ceased to increase, and a livid inflammation which had taken place upon its apex subsided. In a month, the tumour had diminished, and the respiration was much less affected. In three months, no external tumour was perceptible: his breathing, indeed, was difficult, but the inconvenience from this cause was trifling compared with what he had previously endured. Unless he was agitated by passion, or the circulation was accelerated by the use of stimulants, he suffered but little from the disease. In six months, he left us and returned to his trade as a labourer, at which time his breathing was but little impeded. The deficiency of the cartilages of the ribs was very perceptible, but there was no external tumour."

"Pelletan," he observes, "has detailed fourteen cases of aneurism, all of which were materially benefited by this treatment; and in two of them permanent cures appear to have taken place. One man was sixty-one years of age, in whom the aneurism appeared on the right side of the chest. "During the first eight days," says Pelletan, "I prescribed eight bleedings, consisting of three porringer-fulls (*palettes*) in the morning, and two in the evening. On the fifth day, the pain and the pulsation were considerably diminished, but the pulse at the wrist still preserved its fulness. Two porringer-fulls of blood were taken from him; the pulse continued weak until the seventh day, when it again rose. Another porringer-full of blood was taken from him in the morning, and a second in the evening. During this time, the patient was placed upon a rigorous diet. A cold cataplasm, composed of linseed meal and vinegar, was applied to the tumour, and renewed as soon as it became warm. This treatment produced a wonderful effect in eight days; the pain and pulsation disappeared; the debility of the patient did not otherwise injure the state of his health. He observed perfect tranquillity, and did not complain of any uneasiness, when the pain and pulsation had entirely vanished. We gratified his extreme desire to be allowed an increase of diet, but this was done by degrees."

"When this treatment had been employed twenty-eight days, the man left Paris. After some months he returned to his business as a porter, grew fatter than before, and continued without any vestige of the disease, except a slight and deep pulsation at the part where the pulsation of the arch of the aorta may be felt in the natural state. Pelletan saw this man daily for two years after the cure was accomplished, when he died of another disease.

"In a very large axillary aneurism, a cure was effected by similar treatment. The size of the tumour, and the effects which it had produced upon the surrounding parts, placed it beyond the reach of operative surgery. A most abstemious diet, consisting only of two basins of broth in the day, and a common drink of lemonade, was prescribed, and twelve porringer-fulls of blood were taken from the arms at six bleedings, in the course of the first five days after his admission into the hospital. On the second day after the commencement of this treatment, the tumour was less tense and painful. On the third day it was considerably diminished in size, and evidently consisted of two portions, which were separated from each other by the pectoral muscle. On the ninth day it was one-third less in size than at the commencement of the treatment: the pulsation had ceased, but the patient was reduced to an alarming state of debility. He continued in this state two days, and recovered from it by the use of a more generous diet and a little wine. The pulse returned in the opposite wrist, but not in the aneurism;—the tumour became softer. Powdered ice, inclosed in bags, was applied for twenty days, when a solution of salt was substituted for it. The swelling gradually contracted, and in forty-six days the surrounding parts were easily distinguishable. The limb had recovered its strength and motion; there was no pulsation in the tumour, nor at the wrist of the affected arm; and his general health was completely restored. Some months afterwards there remained only a small knot in the axilla."

Besides the employment of blood-letting, other evacuations, an antiphlogistic regimen, low diet, and digitalis, are also recommended. These have, in some instances, appeared to be useful. Mr Guerin strongly recommends as an adjuvant, cold applications, and powdered ice to the tumour itself. In a case of inguinal aneurism, in which our author witnessed its employment, it produced such intolerable pain as called for its discontinuance. From the whole of the observations collected by Mr Hodgson, he thinks himself warranted in the following deductions:

> "*1st*, The deposition of coagulum in the cavity of the aneurismal sac, and the artery leading into it, is the mode by which the spontaneous cure of aneurism is, in most instances, effected.
>
> "*2dly*, The coagulum is subsequently absorbed; and the sac and artery contract, until the one becomes an impervious cylinder, and the other a small fleshy tumour.
>
> "*3dly*, In some instances, the cure is effected by the obliteration of the cavity of the sac, without any obstruction taking place in the calibre of the artery, from which the disease originates. In this manner a cure may take place in aneurisms of the aorta.
>
> "*4thly*, The formation of coagulum being a general occurrence in aneurisms, it is an important object to prevent the increase of the sac, that the deposition of coagulum may proceed to such an extent as to obliterate its cavity.
>
> "*Lastly*, It is the force of the circulation which causes the enlargement of the sac and its ultimate rupture: Hence the diminution of the force of the circulation is the principal indication in promoting the spontaneous cure of aneurisms."

In the next section, Mr Hodgson proceeds to the consideration of the surgical treatment of aneurism. But as this part of the subject is much more familiar to the English reader than the medical treatment of aneurism, we shall be more brief in our account of it. Everything, however, connected with this still interesting, and not yet exhausted subject, is not only very fully investigated by our author, but by his judicious observations, and criticism on disputed or more doubtful points, he has, we think, extended the limits of this branch of surgical science.

In the treatment of aneurism, the object of surgery is, to obliterate the calibre of the artery communicating with the sac, so as either at once to prevent the blood flowing into it, or at least to diminish the volume and force of its current, so far as to prevent the increase of the tumour, and to promote the coagulation and absorption of its contents,—while the blood passes on through new channels by means of the collateral branches. The obliteration of the main artery is attempted by compression or by ligature. There is no reason to doubt that cures have been promoted by different modes of compression. General compression of the limb, with a system of abstinence and depletion, may have assisted the spontaneous cure of aneurism. The altempt to compress more completely and entirely the artery feeding the aneurismal tumour, is now superseded by the improved mode of operating introduced by Mr Hunter, and, since his time, brought to a very high degree of perfection by our own surgeons. There are three points connected with the operation of aneurism which claim particular attention. 1*st*, The application of the ligature. 2*dly*, The mode by which the blood is conveyed through collateral channels to the parts which it is destined to supply. And, 3*dly*, The changes which take place in the tumour, in consequence of the ligature of the artery, at a distance from the disease. All these subjects are discussed in a very able and luminous manner by Mr Hodgson. The experiments of Dr Jones, confirmed and extended by succeeding observations, have thrown a new light on the action of the ligature, and have led to some important improvements in its application.

"Instead of simply producing an approximation of the opposite sides of the vessel, it has now been ascertained by an extensive series of experiments, that the application of a ligature to an artery is the performance of a distinct operation upon it, producing a wound in its internal and middle coats, which gives rise to an effusion of lymph, whereby the opposite surfaces of the extremity of the vessel are united, in the same manner as soft parts in general are healed by the adhesive inflammation. The immediate effect of the ligature is the obstruction which it affords to the passage of the blood through the vessel; but its more important results are, the adhesion and obliteration of the extremity of the tube. The processes by which these objects are accomplished are the following: The internal and middle coats are cut through by the ligature, and are thus placed in the condition of simple incised wounds. From these cut edges an effusion of lymph takes place, which seals the extremity of the tube, forming a matrix for vessels, which extend from the wounded surfaces, and unite the opposite sides of the canal in that situation. At the same time the inflammation, excited in the coats of the artery, produces an effusion of lymph between them, with which they are thickened; and, from the surrounding parts, a similar effusion takes place, which covers the vessel externally, and affords it additional support. The ligature causes the death of that portion of the external coat with which it is in immediate contact. In a little time this slough is detached by ulceration, and the ligature is cast off. But the recent adhesion at the extremity of the vessel would probably be too weak a barrier to the impulse of the circulation, especially in the larger arteries, if the portion of the vessel between the ligature and next collateral branch were not, in most instances, filled with the coagulum of the blood, which, in this situation, meets with an obstacle to its progress, and is placed, as it were, out of the course of the circulation. The coagulum deposited from the blood, under these circumstances, forms a plug, which removes the impulse of the circulation from the recently cicatrized surfaces. This plug, however, serves but for temporary purposes. It is gradually absorbed; and that portion of the vessel which is situated between the ligature and the next collateral branch, contracts, and ultimately degenerates into a simple ligamentous cord.

"Such are the processes which Dr Jones ascertained to follow the application of a ligature to an artery, differing from his account of them only in this point, that the ligature is here stated to cause the sloughing, and not the ulceration of that portion of the external coat which it immediately embraces. This circumstance I have inferred from the examination of several arteries which have been tied in the human subject as well as in brutes; and from having observed that, after several operations for aneurism, in which the vessel was not divided, the ligature brought with it, in its ring, a considerable portion of slough of a cellular structure, accurately resembling the external coat of an artery."

One of the most distressing occurrences, after the operation of aneurism, has been that of secondary hæmorrhage. The causes of this, however, are now better understood; and, in so far as these can be avoided, or their effects prevented, the surgery of aneurism is now in a very improved state. The principal causes of secondary hæmorrhage are the obstacles which the adhesive inflammation has met with, in consequence of, 1*st*, a morbid condition of the coat of the artery; 2*dly*, the application of an improper ligature; 3*dly*, its premature removal; and 4*thly*, sloughing or ulceration of the vessel and surrounding parts.

Having examined at length the operation of these causes, and explained the mode in which they are most likely to be obviated, Mr Hodgson sums up the whole in these conclusions:

"1*st*, The cord should be thin and round, such a ligature being most likely to effect a clean division of the internal and middle coats of the vessel, and not liable to occasion extensive ulceration or sloughing.

"2*dly*, The ligature should be tied very tight, in order to insure the complete division of the internal and middle coats, and to prevent its detachment, it being almost impossible, even with the thinnest ligature, entirely to cut through a healthy artery.

"3*dly*, The vessel should be detached from its connexions only to such an extent as is necessary for the passage of the ligature underneath it.

"4*thly*, The immediate adhesion of the wound should be promoted by all those means which assist that process in general.

"*Lastly*, Experience having proved that secondary hæmorrhage more frequently arises from an improper mode of tying the artery, or of treating the wound, than from the condition of an undivided artery, the practice of applying two ligatures, and dividing the vessel in the interspace, is not an essential object. But in situations where there is a vigorous circulation at both ends of the vessel, the application of two ligatures is advisable."

When the main artery, supplying the aneurismal tumour, has been tied, the blood passes through the collateral and anastomosing branches to the lower part of the limb; and so extensive is this provision for carrying on the circulation, independently of the principal arterial trunks, that, with the exception perhaps of the ascending aorta and its arch, there is not an artery in the body which may not be tied with the utmost confidence, that the parts beyond the ligature will continue to be supplied with blood by anastomosis. The descending aorta itself forms no exception to this rule. It has been tied in brutes, and it has been found obstructed in man. There are, indeed, circumstances in the condition of the part operated on, or in the general health of the system, which may prevent the full establishment of collateral circulation. In particular, extensive disease of the arteries themselves may have this effect; or previous wounds, or the bulk of the aneurismal tumour, destroying or pressing upon the principal anastomoses, may also interrupt it. A languid state of the circulation, such as exists in old and infirm habits, is also adverse to the enlargement of the anastomosing branches. When the collateral circulation fails from any of these causes, the limb sphacelates and dies. But, generally,

"*First*, When the circumstances tending to prevent the establishment of a collateral circulation do not exist, we need not apprehend the death of any part in consequence of a deficient supply of blood after the ligature of its main artery.

"*Secondly*, The circulation will be as effectually carried on in a healthy limb, when the main artery is suddenly tied in consequence of a wound, as when an aneurism has existed for a considerable time.

"*Lastly*, The practice of permitting an aneurism to increase, that the collateral branches may become enlarged, is not only unnecessary, but injurious, inasmuch as that the increase of the tumour must be attended with a destruction of the surrounding parts, which will render the cure of the disease more tedious and uncertain."

The effects produced on the aneurismal tumour by the ligature of the arterial trunk, from which it originates, are the interruption to the passage of the blood immediately through it; the consequent cessation of pulsation; the coagulation of its contents; their gradual absorption; and the complete obliteration of the cavity of the sac.

"But when the artery is tied at a distance from the disease, the ingress of the blood is not altogether prevented, for the anastomosing branches which open into the trunk below the seat of the ligature, convey a stream which passes through the aneurism. The impulse of this current is, however, so trifling, that the enlargement of the sac not only ceases, but the deposition of coagulum in it increases, in consequence of the languid state of the circulation. The coagulum accumulates until the cavity of the sac and the mouth of the artery, leading into it, are obliterated. By the absorption of the coagulum, and the contraction of the sac, the cure is ultimately accomplished, in the same manner as when the artery is tied close to the tumour, or the disease is remedied by the spontaneous efforts of nature.

"That a stream of blood, in most instances, passes through the sac after the ligature of the superior part of the artery, at a distance from the disease, is confirmed by numerous observations, and is a fact of great importance, both in a practical and pathological point of view. It is proved, 1*st*, By the occasional recurrence of pulsation in the tumour after the operation; 2*dly*, By cases in which the cavity of the sac has been exposed, and hæmorrhage has been the consequence; and, 3*dly*, By dissections, in which it has been found, that the cavity of the aneurism, as well as that of the artery from which it originated, was pervious from the part which was obliterated by the direct operation of the ligature."

The artery itself, after it has been tied, gradually contracts, loses its calibre, and, some time after, is found to be consolidated, and converted into a ligamentous cord, to some extent, both above and below where the ligature had been applied, generally to the sending off of some principal collateral branch by which the circulation is continued through the limb.

"In the preparations," observes our author, "that I have examined, and in all the cases that I have met with upon record, in which the parts were dissected, after a complete and radical cure of aneurism was effected in consequence of the modern operation, the cavity of the sac has been found obliterated, and the only vestige of the disease which remained was a solid ligamentous substance. Both extremities of the artery from which the aneurism arose were also obliterated to the origin of some important branch. In Mr Astley Cooper's case, the femoral artery was converted into a solid cord, from the origin of the profunda to the commencement of the tibial arteries. This, however, is the only instance with which I am acquainted where so extensive an obliteration of the artery had taken place. In all the other dissections after the modern operation for popliteal aneurism, that I know of, the femoral artery has been found to be obliterated for the space of three or four fingers' breadth at the place where the ligature was applied; below that part it was pervious, and continued so for some distance, when the obliteration again commenced, and continued throughout a considerable extent of the popliteal to the origin of the inferior articular or tibial arteries. Thus, as it were, an insulated portion of the femoral artery preserved its cavity, which was terminated above by the part which had been obliterated by the ligature, and below by the part which had become impervious, in consequence of the effects of the operation upon the aneurism in the ham. From each extremity of this insulated portion of artery which still preserved its calibre, considerable anastomosing branches arose; the upper branches conveyed blood into the vessel, and the lower transmitted it into anastomosing channels that originated below the knee. A double collateral circulation, therefore, existed in the limb, namely, one by which blood was conveyed from the branches of the profunda into the femoral artery, which was pervious below the part obliterated by the ligature; and a second, by which it was forwarded from this insulated portion of vessel into the trunks of the leg through the articular arteries of the knee."

The existence of an aneurism in a situation where it is impossible to tie the artery above the tumour, has suggested the experiment of securing, in such a case, the artery below the tumour, in the expectation that an impediment would be given to the free passage of the blood through the aneurismal tumour, sufficient to occasion a stagnation and coagulation of its contents. This practice, originally proposed by Dessault, was tried by Deschamps in a case of inguinal aneurism. The experiment was unsuccessful; and Mr Hodgson conjectures that a branch had opened between the ligature and the tumour, by which it continued to be supplied. This operation has also been performed in London.

"Mr A. Cooper was consulted in a case of aneurism of the external iliac artery, which extended into the abdomen as high as the internal iliac, so as to render it impracticable to tie the artery above the tumour. The disease had thrust forwards the inferior portion of the abdominal muscles and Poupart's ligament. The rapidity of its progress threatened the life of the patient. The femoral artery was tied between the origins of the epigastric artery and of the profunda. The pulsation continued; but the tumour did not increase in size after the operation. The ligatures separated favourably. The aneurism diminished so considerably, that it was conceived, in a little time, if its diminution continued, it would be possible to tie the external iliac artery above the tumour. The patient went into the country to recruit his general health, where the aneurism burst underneath the peritoneum, and he died in consequence of the extravasation of blood into the cellular membrane of the pelvis and scrotum. In this instance the femoral artery was tied below the origin of the epigastric and circumflexa ilii arteries; a current, therefore, continued to pass through the sac into these vessels, consequently the blood was not at rest in the aneurism, and did not coagulate. After the ligature of the artery, the blood was transmitted more readily through the internal iliac than through the arteries which originated below the aneurism, namely, the epigastric and circumflexa ilii. The contraction of the sac, therefore, appears to have been the consequence of the diminution of the stream which passed through it, in the same manner as an aneurism contracts, although a current enters it after the ligature of the artery at a distance from the disease. It is to be regretted that, in the instance which I have now related, an opportunity could not be obtained of examining the actual condition of the parts after death."

Notwithstanding the failure of these cases, Mr Hodgson concludes, that the effect of tying an artery below the aneurism has not yet been determined by experience. "There is strong reason," he observes, "to believe that if no branch originated from the aneurism, or from the artery below the aneurism, the blood would coagulate in the tumour, and that a cure would be accomplished by the absorption of this coagulum, and the subsequent contraction of the sac." The principle upon which a cure is expected to follow this mode of operating, is the same as that upon which varicose veins are cured by tying the superior part of the vessel. The obstructed blood coagulates in the dilated vein,—the coagulum is absorbed,—the cyst contracts, and the disease is cured.

Having at great length, and with much acuteness and intelligence, investigated the pathology of aneurisms in general, Mr Hodgson closes this part of his subject by invoking the reader's attention to the identity of the processes, by which a spontaneous cure of aneurism is occasionally accomplished, and the effects produced upon the disease by the modern operation.

"If the patient be feeble, and the circulation languid, the cavity of the sac is gradually filled with strata of coagulum deposited from the blood which passes through it; by the absorption of this coagulum, and the contraction of the sac, a cure is ultimately accomplished. If a languid state of the circulation be induced by abstinence and depletion, these processes of spontaneous cure are promoted.

"If the artery be tied above an aneurism, the ingress of blood into the tumour is not entirely prevented, but the stream which passes into it from collateral branches, is not sufficient, either in quantity or in force, to continue the disease. Under these circumstances, the deposition of coagulum is promoted by the languid state of the circulation through the tumour. The cavity of the sac is gradually filled, and the same processes of absorption and contraction ensue, as when the disease undergoes a spontaneous cure.

"The cure of aneurism in general, whether effected spontaneously, or by the assistance of art, is therefore referable to one principle,—the diminution of the force of the circulation through the sac:—All which art can with safety accomplish, is to place the parts in a condition in which the powers of the economy are capable of remedying the effects of disease."

Our author now proceeds to investigate the history of particular aneurisms;—and, in distinct sections, he gives a very minute and detailed account of everything connected with the formation, progress, termination, and treatment of each variety. But here it is not our intention to go into details. It is sufficient to remark, that, under the heads of carotid aneurism,—axillary and subclavian aneurisms,—brachial, radial, and ulnar aneurisms,—inguinal aneurism,—gluteal and ischiadic,—femoral, popliteal, and tibial aneurisms, the reader will be gratified with a variety of interesting cases and observations, and by an account of those brilliant operations which reflect so much honour on modern surgery. The subject of wounded arteries, including the processes of nature and of art for the suppression of haemorrhage, is also discussed with much ability by Mr Hodgson. His observations on the diseases of veins are no less worthy of notice, and we regret that our limits, already transgressed, do not permit us to introduce our readers to at least a superficial acquaintance with them. The diseases of the veins are respectively considered under the heads of inflammation of the veins,—morbid changes of their coats,—and varicose veins. There is also a section on the obliteration of veins, and venous collateral circulation, highly deserving a careful perusal. To conclude, we can, with great confidence, recommend this volume to the attention of our readers, as embodying a great variety of fact and illustration, and presenting a very faithful and interesting record of the improved state of science and of art in pathology and surgery.

II.

Materia Medica of Hindoostan, and Artisan's and Agriculturist's Nomenclature. By WHITELAW AINSLIE, M. D. Superintending Surgeon of the Madras Establishment. 4to. Madras, 1813. pp. 301.

ALTHOUGH one-half of this work does not come within the object of our Journal, the other is in itself so important, and it is so seldom that India furnishes us with a subject for the exercise of our critical talents, that we hasten to make our readers in some degree acquainted with it. We have often occasion to find fault with the fineness of the paper, and beauty of the typography, extravagantly lavished upon productions otherwise insignificant. In the present instance, we have the opposite fault to censure, so far as the types are concerned. While the Tamool and Dukhanie characters are sharp and clear, the Roman and Italic letters used in printing this work seem to have been exported to Madras after having been worn out in the service of an encyclopædia or newspaper in this country. This is no fault of the author, but it is certainly disgraceful to the Government press of Madras, at which it is printed, and inclines us to suppose that in that settlement no competition is permitted to excite in it any desire to excel.

The medical part of the work contains three sections, the first and second containing a short notice of articles of the British Materia Medica found in Asiatic countries, many of which are in common use among the Indian practitioners. The third section embraces several subjects connected with Indian Materia Medica. A dictionary of medicines of the Tamool Materia Medica, many of which are in common use amongst the Telingas and Mahometans, although but few of them have been hitherto much inquired after by European practitioners.

A table, shewing the doses of such Tamool medicines as are not included in the British Materia Medica.

The weights in use amongst the native druggists of Lower Hindoostan.

Forms of prescriptions in use amongst the native medical practitioners of Lower Hindoostan.

In an appendix, we have a table of the names of diseases in the English, Tamool, Dukhanie, and Telingoo languages; a list of books (chiefly medical) in the Tamool, Persian, Arabic, and Sanscrit languages; some further particulars concerning the purging croton nut; and some additional articles omitted in the body of the work.

It is impossible to give any further analysis of a work of this kind, or to extract the information it contains, from the manner in which it is dispersed among the numerous articles noticed in these dictionaries; we have, therefore, no other method by which an idea of the execution of the work can be formed, than by transcribing an article from each of them.

" MYROBOLAN, CHEBULIC. *Kădukăi* (Tam.)—*Huldah* (Duk.)—

Ahleelujcabulee * (Arab.)—*Héleelèhkélan* (Pers.)—*Har* also *Hara* (Hind.)—*Cārākdia* (Tel.)—*Haratākā* (Sans.)—TERMINALIA CHEBULA. *Willd.*

" This species is infinitely more astringent than the preceding (Myrobolan, Belleric.) Nay, it would appear, by some experiments made by Dr Roxburgh,† that it is even more so than the Aleppo Galls.

" *Kadukai*, well rubbed, in conjunction with Galls, and *Cuttacāmboo* (of each equal parts), is considered by the Vytians as an excellent external application in the aphthous affections of children and adults; the last of which is a most dangerous disease amongst the native Indians.

" The tree which produces the *Kadukāi* is common in Mysore, where it is called *Arulay;* and hence the botanical name (Myrobolanus Arula) given to it by Dr Buchanan."

" *Nērvālum cottay* (Tam.)—*Jummāl gotta* (Hind. and Duk.)—*Dund* (Pers.)—*Bātoo* (Arab.)—*Naypālum vittiloo* (Tel.)—*Jayāpālā* (Can.)—PURGING CROTON NUT.—CROTON TIGLIUM, *Lin.*—*Dunti beeja*, also *Nēpāla* (Sans.)

" These seeds, which were formerly known in Europe under the name of *Grana Molucca*, are of a convex shape on one side, and bluntly angular on the other, are reckoned by the Vytians amongst their drastic purges, and are frequently prescribed by them in maniacal cases, or on other occasions when powerful cathartics are required. Their operation is rendered much less violent when the seeds‡ are cleared from the thin filament in which each is closely enveloped; then, as far as one of the seeds may be given as a dose. The Malay name of the fruit is *Bori*. The plant‖ is the *Cadel Avanācu* of the Hort. Mal.

" A fixed oil is prepared from the seeds of the Nervalum, called *Nervalum unnay*, which is considered as a valuable external application in Rheumatic affections.

From these extracts, it will be seen that Dr Ainslie has distinguished himself, both professionally as a collector of Indian

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* D'Herbelot is of opinion that the Arabic name of this Myrabolan is taken from the word *Cabul*, the article having been first brought to Arabia from the country so named.

† See Oriental Repertory, Vol. I. p. 28.

‡ For very valuable and interesting accounts of the Purging Croton, as it has been used as a purgative in Guzerat, the reader is referred to communications from Dr D. White of Bombay, and Mr Marshall, Assistant Surgeon of that establishment; which may be seen in the Appendix of this work.

‖ Rheede tells us, that the leaves of this plant, rubbed and soaked in water, are also purgative; he, at the same time, adds, that, when dried, and reduced to powder, they are a useful remedy against the bite of a *Cobra Capella*, applied to the bitten part. See Hort. Mal. part 2d, page 62.

Materia Medica, and as an oriental linguist. Indeed, we have seldom met with a work in which industry, learning, and knowledge, were so judiciously combined. We cannot resist our inclination to transcribe the following interesting account of the Hindoo physicians.

" I shall not perhaps find a better occasion than the present, for doing what I conceive to be a justice to the Hindoo medical men of these provinces; attacked as they have been, somewhat roughly, by Monsieur Sonnerat, in his " Voyage to the East Indies." That gentleman says, that the Indians are mostly all pretenders to some knowledge of medicine; that there is not one physician amongst them more learned than another; that they are generally individuals who have been washermen, weavers, or blacksmiths, but a few months before; and, to crown all, that they administer few remedies inwardly, and make little use of ointments or cataplasms. *

" In reply to the latter part of this gentleman's remarks, I shall only offer a perusal of the Tamool Materia Medica, and list of Medical Books contained in this work; to the former I must say, that either Monsieur Sonnerat has been a little remiss in his inquiries, or that I have been particularly fortunate in meeting with Vytians of a very different description from those he alludes to. That there may occasionally be found in this, as well as in other countries, men who, with more impudence than education or talents, push themselves into notice, will not be disputed; but it is as certain that there are many Hindoo physicians who are doctors by long descent, who, from their early youth, have been intended for the profession, and taught every thing that was thought necessary to be learned respecting it. Not a few of them have I known, who were not only intimately acquainted with all the medical *Sastrums*, great part of which they had by heart; but who, in other respects, were in their lives and manners correct, obliging, and communicative; and I am happy to see that a character nearly similar to this has been given of the same description of people in Bengal by Sir William Jones, who speaks of them in the following terms: " All the tracts on medicine must indeed be studied by the Vydyas, (Doctors,) and they have often more learning, and far less pride, than any of the Brahmins. They are usually poets, grammarians, rhetoricians, and moralists; and may in fact be esteemed the most virtuous and amiable of the Hindoos."

" There are no medical tracts of any note in Dukhanie : † Such of the Hakeems as have any pretensions to learning, are sufficiently well acquainted with the Persian and Arabic to read with ease the professional works that are written in these languages; and some of them, by combining a knowledge of the Tamool Materia Medica with the opinions and doctrines which they find in the books they peruse, possess a great deal of information, and are in general men of polite manners, liberal minded, and humane."

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* See Sonnerat's " Voyage to the East Indies and China." Vol. II. p. 136, 137. English Translation.

† What is commonly understood by *Dukhanie*, is the language currently spoken by the Mahometans of Lower Hindoostan. It has a great affinity with the Hindoostanee of the Higher provinces; like it, too, it has two different styles, viz. the low jargon of the common people, which is a very poor dialect; and

III.

Researches on Pulmonary Phthisis, from the French of G. L. Bayle, D. M. P. By William Barrow, M. D. Senior Physician to the Fever Hospital, Lunatic Asylum, and Workhouse, Liverpool. Liverpool, 1815. pp. 479. 8vo.

This is a very good book, although the extravagant praise with which it is introduced to our notice by the translator, almost prepossessed us against it. But a translator must be looked upon as a lover, who has eyes only for his mistress, and thinks "this present age yields not a woman worthy to be her second." We readily admit, that "the indefatigable industry and perseverance of M. Bayle, his unassuming modesty and candour, the perspicuity and genuine philosophy he has displayed, certainly entitle him to the esteem and respect of every country;" but Don Quixote was less unsuccessful in getting the transcendent beauty of his Dulcinea acknowledged, by force of arms, than Dr Barrow will be in his attempts to convince the pupils of the London and Edinburgh schools of the right of France to exult, even "at present, in her claim to pre-eminence, either in pathological or practical knowledge," or "to boast that one of her physicians has done more towards establishing an accurate knowledge of disease of the lungs, than had been effected in *other* countries (Why other countries only? Why except France itself from the censure?) in two thousand years."

We agree perfectly with Dr Barrow on the great value of morbid anatomy, and lament with him most sincerely the obstacles which exist in this country to pathological investigation,

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that in use amongst the more enlightened and high cast of Moosulmans, which, by containing a great many Arabic, Persian, Sanscrit, and even Tamool and Telingoo words, is rich, copious, expressive, and energetic.

even in our public hospitals; but we do not agree with him in conceiving that legislative interference would produce much good in regard to this matter. The coroner might indeed be *required* to examine the body in all cases which come under his consideration, a duty which at present is often culpably neglected, and some facilities might be afforded for the keeping of correct bills of mortality and parish registers; but Dr Barrow's notions of obliging the faculty attached to public hospitals, to keep correct registers of practice, and of regulating the opening of the dead by law, are perfectly chimerical. It is only by removing the prejudices of the people, and by encouraging the zeal of the profession, that any progress is to be made.

In illustrating the advantages to be obtained from dissecting the dead, Dr Barrow mentions a very curious and important fact, which we regret he has not detailed more circumstantially, although not connected with Pulmonary Phthisis.

> "Some time ago a very alarming disease broke out amongst the children in the workhouse. It was observed to commence in the most sudden manner. The little sufferers were seized with vertigo, without any previous indisposition, and instantly fell to the ground: a very languid state and stupor, from which it was difficult to rouse them, quickly followed. The first that was affected did not excite alarm in the apothecary then in attendance, and he ordered the usual means for clearing the bowels: the child, to his great astonishment, continued in a comatose state, and died in the afternoon of the same day. This circumstance being represented to the churchwardens, they interrogated him very closely, and though, in this instance, very little to blame, he was severely censured. In a day or two after, another child was seized in the same manner, of which I had immediate notice; and having already had a melancholy account of the formidable nature of the disease we had to contend with, I prescribed powerful antimonial emetics, to be repeated every ten minutes till they produced a copious effect. The little patient was then put into a warm bath, and afterwards wrapped in blankets, to elicit a profuse perspiration, during which I directed the nurse to awake him every three or four hours, for the purpose of giving a couple of pills of calomel and antimonial powder, to be washed down with a mixture of infusion of senna and salts, and this course to be repeated as long as the coma lasted. This plan having succeeded, the child got well. More of the children, however, continued to be attacked each day, and being treated in the same manner, all, except one, recovered. This child, after shewing symptoms of amendment, relapsed two or three times, and died. I took the opportunity of examining the body very minutely, but could find nothing in the brain or stomach to throw any light on this singular disorder. In the heart alone could I discover any morbid change, and here were strong appearances of

inflammation, particularly in the aortal valves of the left ventricle. Having obtained this proof of the nature of the disorder, I was enabled to proceed with confidence in place of the timidity and diffidence I felt previous to the dissection, and though more than 200 of the children were attacked, this dangerous disorder was not fatal in any other instance."

We do not think Dr Barrow warranted to infer, from finding the aortal valves of the left ventricle inflamed in a single instance, that the inflammation of these, or even any part of the heart, occurred in all the two hundred attacked, unless some symptoms, indicating disease of this organ, had been observed in all or most of them.

The translation is, upon the whole, correct. We noticed, however, some errors, as *commissioner*, repeatedly, for *porter*. Its style may be judged of by the extracts we have made.

M. Bayle, in the first part of his work, treats of the essential character of phthisis; of the diseases which have been confounded with phthisis; of the different kinds of phthisis; of the different periods of phthisis; of the state of other parts of the body in those who die of phthisis; of the complication of phthisis with other diseases; and, lastly, of the treatment. These subjects occupy 130 pages; the remaining 370 contain the histories of particular observations, with dissections and remarks.

M. Bayle, in establishing his essential character of phthisis, disregards entirely those symptoms by which it is commonly recognised during the life of the patient, and deduces it solely from a pathological state of that organ. In his opinion, "Every organic affection of the lungs which, left to itself, produces their progressive disorganization, succeeded by their ulceration, and finally by death, ought to be considered as phthisis pulmonalis." This definition limits the commonly received idea of phthisis in some respects, and extends it in others. It excludes all diseases, in which there is no actual disorganization of the lungs, however much they may resemble phthisis in their symptoms, and it includes all incurable disorganizations of the lungs, however different in their nature, as soon as they commence, and therefore before they have produced any symptoms to denote their existence.

His particular view of this disease renders it necessary to distinguish it from some other affections, which are united with it, when the subject is differently considered. These are, 1*st*, *Chronic pulmonary catarrh*, when it proves fatal; the catarrhal phthisis of authors. M. Bayle indeed candidly admits, that in its symptoms, especially when accompanied by puriform expectoration and hectic fever, it is very nearly allied to phthisis, but considers it as an essentially different disease, as it only affects the mucous membrane of the lungs, does not disorganize them, and has no tendency to destroy their substance. *2dly, Chronic peripneumony*, which indurates the lungs, gives them somewhat the appearance and consistence of muscle, but does not produce ulceration. One variety of this affection is called *Engouement du poumon*, when the lungs are a little firmer than usual, very heavy, and pouring out from all parts an astonishing quantity of blood, serum, and frothy mucus, without tubercles or ulcerations. *3dly, Chronic pleurisy*, especially when it is not accompanied by any local pain, and when it produces effusion, purulent expectoration, hectic fever, cough, and the highest degree of marasmus. On opening the thorax, the lungs on one side sometimes seem to be altogether destroyed, or converted into a purulent fluid; but, on accurate examination, they will be found entire, and contracted into very small bulk. In other cases, the lungs will seem to contain a very large cavity filled with pus, when, in fact, the pus is not in the substance of the lungs, but effused in the space between two of their contiguous lobes adhering by their edges.

M. Bayle next proceeds to describe the various affections of the substance of the lungs, which, in his opinion, constitute phthisis pulmonalis; and of these he has observed six, which sometimes occur without complications, but frequently combined with each other, or with other affections. This view leads him to divide phthisis into six species; 1. tubercular; 2. granular; 3. with melanosis; 4. ulcerous; 5. calculous; and 6. cancerous.

Tubercular phthisis is often simple. The tubercles are formed by a homogeneous substance, always opaque, of a white or dirty white colour; at one time yellowish, at another greyish. Some are very distinctly encysted; the surface being commonly membranous, but in some cases cartilaginous, or even bony. Others adhere to the parenchyme of the lungs, by continuity of substance, and are commonly marked by some black lines. Both kinds are penetrated by capillary blood-vessels, and both often occur in the same person. They vary in size from a millet seed to a chesnut, and are sometimes excessively numerous, and at others there are only two or three in number. They are at first very firm, then grow soft in the centre, which is transformed into a grumous purulent matter; and in the end they are totally destroyed by suppuration. The ulcers arising from the suppuration of tubercles are almost always covered by a distinct membrane which secretes pus, or by an albuminous layer, unless where the substance of the lungs is ulcerated. When there are several ulcerations, they communicate with one another by irregular openings, and form in the lungs rugged cavities, sometimes of great extent. With the bronchi they communicate by round openings. The substance of the lungs is sometimes almost sound around the ulcerations when they are very small, but commonly it is more or less altered. Usually it is not ulcerated, although sometimes it seems to have almost entirely disappeared, from the compression caused by the tubercles. Sometimes there is a complication of the tubercular with ulcerous phthisis, in which case, ulceration of the substance of the lungs is the consequence of the suppuration of a portion of it, which had become inflamed at the time when the softening of a contiguous unencysted tubercle took place.

Granular phthisis has not been described. The lungs are stuffed with miliary granulations of a cartilaginous nature and consistence, transparent, shining, sometimes speckled with bright black lines or points. They vary in size from a millet seed to a grain of wheat. They are never opaque, and never dissolve, but at last occasion ulcerations of the parenchyme of the lungs; and in this case, there is always an evident albuminous layer lining the ulcer, and even often a distinct membrane, which secretes the pus. It is almost always complicated with tubercular phthisis.

Phthisis with melanosis has been observed, but not understood. It affects only adults, and, above all, persons advanced in years. Those whom it kills have ulcers in the lungs of various sizes, as black as coal, and very hard; sometimes a few lines thick, and sometimes as many inches. The parts remote from the ulceration are commonly very sound; but if the disease affects an entire lung, it is hard, compact, black as ebony or charcoal, and sometimes like half-burnt leather. It is commonly complicated with tubercular or granular phthisis, or even other species, and also occurs without complication.

Ulcerous phthisis is very rare. When absolutely without complication, the ulcer takes place in the very substance of the lung, and is never covered by an albuminous layer, nor by any distinct membrane; or in ulcers which are the consequence of tubercles. It almost always exhales a very fetid and gangrenous smell. Its surface, which is very unequal and irregular, is commonly covered with decayed substance of a brown colour, or with greyish, brownish, or even blackish purulent matter of a pungent offensive smell. These are generally the traces of hæmorrhage. The structure of the part where the ulcer is situated, becomes closer, but sometimes without tenacity; at others firm, while the lung at a little distance is quite sound. The size of the ulcer is very variable, and sometimes there is only one deep seated ulcer. Ulcerous phthisis is commonly quite simple. When it is complicated with other species, there are almost always several excavations communicating with one another. In calculous phthisis, the lungs contain calculi or ossified particles, sometimes in great numbers. They are almost always situated in the bronchial glands, or in small cysts, and sometimes between the bronchi or the first divisions of their ramifications.

Calculous phthisis is sometimes simple, but more frequently complicated with other species, and it occurs sometimes in persons subject to gout or nephritic colic.

In cancerous phthisis the part is of a glossy white, sometimes firm, at others already in a soft state, and always with extremely minute blood-vessels running through it. The cancerous masses are sometimes insulated, at others occupy the parenchyme of the lung. This species is commonly the consequence of a cancerous diathesis. It sometimes occurs single, sometimes complicated with tubercles or melanosis. This is fungus hæmatodes affecting the lungs.

Much as pathological anatomy is to be esteemed, and zealously as it ought to be cultivated, it is from its ultimately enabling us to form, in the first place, a just diagnosis of resembling diseases, and then of establishing a scientific treatment of each, that it derives its practical value. Admitting, then, that M. Bayle is right in his anatomical observations, and we would not willingly object to their excessive minuteness or subdivision, let us next consider the symptoms by which each of his species is to be recognised during life. We may premise, that M. Bayle has added to the three stages into which the progress of phthisis is usually divided, an occult stage, where the organic change has taken place, but as yet has not given rise to any of the symptoms which would inevitably have followed, if the patient had not been cut off by another disease.

The first obvious degree of tubercular consumption varies much both in its symptoms and in its duration. It often begins with a dry cough, frequently preceded by some other disease, as spitting of blood, inflammation of the chest, an eruptive fever, or cold. A mucous expectoration then takes place, in which opaque white threads, or sometimes little lumps like rice much boiled, and sometimes streaks of blood, are to be seen. These succeed slight accessions of fever in the evening, flushing of the cheeks, and burning palms of the hands. It gradually passes into the second degree. Hectic fever commences, the wasting makes progress; constipation and sleeplessness, as well as night sweats, sometimes supervene. The third degree begins in a few months, or not until a year or two afterwards. The hectic fever experiences only slight intermissions; night sweats, diarrhœa, aphthæ, expectoration and cough, exhaust the patient. In this stage, traces of pus are often, but not always, to be found in the expectoration, which, however, in the greater part of phthisical patients, is nothing but an increased secretion from the mucous membrane of the bronchi.

In granular phthisis, hæmoptysis, more or less abundant, or an habitual sense of oppression, is often the first symptom, or it commences with an obstinate dry cough, or a catarrhal affection, accompanied with transparent glairy expectoration. Chronic pulmonary catarrh, hectic fever, and marasmus, precede death, if it be not previously caused by hæmorrhage.

Phthisis with melanosis is slow and long, without any alarming symptoms. Moderate cough; expectoration whitish, rather opaque, round, of much consistency, and floating in water; sometimes vomiting from the cough; little affection of the chest; the sleep disturbed by the cough; slow but very great marasmus, with a pulse a little more quick than natural; sometimes œdema of the legs are the symptoms commonly observed.

Ulcerous phthisis is attended in its first degree with cough and expectoration, at first ropy, afterwards containing strings of blood and streaks of pus. Pains arise in the chest, after which the expectoration becomes manifestly purulent and fetid, and sometimes there is severe hæmoptoë. The hectic fever is constant and well marked, with burning heat.

Calculous phthisis is recognised by the spitting up of concretions of a whitish or greyish colour, after having had a dry cough for a length of time.

Cancerous phthisis is very slow. Difficulty of breathing and slight cough; occasional pains in the breast, more or less unsupportable, succeeded by expectoration more or less copious, and sometimes very white, and the skin commonly assumes a pale yellowish colour, like that of persons affected with other cancerous complaints.

Such are the symptoms most commonly observed in each species of phthisis, according to M. Bayle, when they exist in their simple form; and it is evident that the diagnosis is even then attended with very great difficulty; but when we consider that two or even three species sometimes exist together, we must anticipate that an accurate and certain diagnosis will be possible in a very few cases only. But the concurrence of several species of degeneration in the same individual naturally suggests a doubt that they do not differ in kind, but only in form; and that M. Bayle has only subdivided the tubercular phthisis of authors into several varieties, in distinguishing it into phthisis with tubercles, granulations, melanosis, and calculi. The ulcerous and cancerous phthisis appear to be sufficiently distinct. But the difficulty of the diagnosis is still farther increased by the numerous diseases with which phthisis is complicated, so that some are suspected of having been the cause of the phthisis, when, in fact, they only accelerated its progress, and others prove fatal chiefly in consequence of the pre-existing disorganization of the lungs. These diseases are exanthematous fevers, peripneumony, pleurisy, pulmonary catarrhs, acute or chronic, hæmoptysis, diseases of the heart, and syphilis. The effect of these complications is well explained by M. Bayle.

"There is still a question of importance to be discussed here:—When phthisis shews itself after pleurisy, hæmoptoë, chronic peripneumony, or even after a prolonged pulmonary catarrh, can we not, or ought we not to presume that the phthisis has been produced by the chronic inflammation of the lungs?

"This question is of the more importance, since many able physicians have regarded pulmonary catarrh as the most frequent cause of phthisis; and have even asserted that rheum, by the consequences it produces, destroys more persons than the plague.

"In order to answer the question we have just stated, it is sufficient to call to mind the following facts:—

"*1st*, I can assert, that of a thousand persons there is not perhaps one who dies of a chronic pulmonary catarrh uncomplicated. What has occasioned the protracted rheum to be regarded as a dangerous disease is this, that they have confounded with pulmonary catarrh different affections which are accompanied with some symptoms analogous to those of rheum. The affections which have misled them the most frequently, are phthisis at the first stage, consumptions much prolonged, chronic peripneumony, and lastly, acute peripneumony complicated with chronic pulmonary catarrh. When the error in the diagnostic attaches to these two last complications, it is easily rectified, provided the authors who have fallen into this error have given exact descriptions of the diseases they speak of: it is sufficient that we read the dissections they report. In spite of the kind of prepossession that the idea of a simple pulmonary catarrh has given them, they say the lung was hardened, carnified, rendered liver-like; or they employ other analogous expressions, which designate the state of lungs affected with acute or chronic peripneumony, whilst in the simple chronic pulmonary catarrh the lung is not either carnified or hardened: we observe only a slight thickening of the mucous membrane of the air passages, which exudes a great quantity of mucous matter. This thickening and this mucous matter are very visible, whether it be in subjects which perish from simple pulmonary catarrh, or in those who, having a chronic pulmonary catarrh, become the victims of some other disease.

"2d, Numberless tubercles are observed in subjects who, having been ill only a few days, have died of peripneumony, of pleurisy, of spitting of blood, or of some other acute disease.

"3d, The lung is frequently found to be without ulceration or tubercles after chronic peripneumony, after chronic pleurisy, after hæmoptoë frequently repeated, and after chronic pulmonary catarrh of the most obstinate kind. These observations shew that if, in some analogous cases, the lung is tuberculous, or filled with miliary granulations, it is because there were two diseases. Besides, in the instances of this complication, the tubercular disease might easily have preceded the inflammation.

"4th, Tubercular degeneracy being a very frequent chronic disease, which does not prevent other diseases, and which even produces some, it is not surprising that tubercles are met with in many persons who have had a chronic inflammation of the chest. For when a hæmoptoë, a pulmonary catarrh, a pleurisy, a peripneumony, or any other inflammatory disease, attacks an individual who has miliary granulations, or a tubercular affection of the lungs, the granulations and tubercles, by continually stimulating this organ, rendered more sensible by a phlegmasy, contribute to keep up the inflammatory disposition. They render the inflammation chronic, which ought to have terminated favourably in a few days; and amongst the inflammations which ought to follow a chronic course, tubercles make incurable or fatal the greater part of those which, by a well-understood treatment, might, without this deadly complication, terminate in a cure. In order the better to perceive this truth, we will examine the influence of tubercles and miliary granulations of the lung in cases of inflammation of the pleura, and we shall see how much more dangerous this inflammation is when it is complicated with a previous degeneracy in the organ of respiration.

"Inflammation of the pleura in a slight degree is very common, since there is scarcely a dead body in which some adhesion of the lung with the contiguous parts does not occur. Besides, these adhesions, as all the world knows, arise from inflammation alone. It is nevertheless rare that the slight degree of phlegmasy, sufficient for the formation of accidental membranes, is sufficiently intense to occasion the symptoms of pleurisy. This slight inflammation of the pleura easily gets well when not kept up by any particular cause. This is not the case if the lung be already affected with granulations or with tubercles, whatever be their nature and quantity. When this coincidence takes place, the inflammation of the pleura and the phthisis have a reciprocal influence, and the patient dies. On opening the body, we find the pleura inflamed, and the lung tuberculous. But we must not conclude from this that the pleurisy produced the tubercles; it only accelerated the progress of those which had a tendency to grow soft and to suppurate. We likewise see chronic pleurisies of long duration without tubercles in the lungs; and meet with numberless tubercles in subjects where the pleurisy, though chronic, has not been of long duration. We may even affirm in general, that simple chronic pleurisy is commonly of very long duration; and when it is complicated with tubercles, death, as we have already mentioned, is more rapid in proportion as the tubercles are more numerous. Lastly, in chronic pleurisies there are often tubercles in both lungs, though the pleurisy only affects one side of the chest; and frequently tubercles are most numerous on the side where the pleura was not inflamed; at other times there are no tubercles but in the lung of the side opposite to the pleurisy, or even there are tubercles in the mesentery as well as the lung. These facts prove that the development of tubercles depends on a general diathesis, and not on local irritation.

" *5th*, The tubercular affection is very probably of a scrofulous nature, as M. Portal seems to me to have proved in his treatise on Phthisis Pulmonalis. Some other authors also are of the same opinion. Besides, the scrofulous taint is a particular affection which is not the effect of any inflammatory state, not even chronic; and this degeneracy does not shew itself in those who are not scrofulous, even when they are affected with a phlegmasy either acute or chronic.

" These different considerations appear to prove, that inflammatory affections are much more rarely than is imagined the decided causes of phthisis. Besides, as I have already said, if these inflammations occasioned this disease, the greater part of them ought to produce the ulcerous phthisis; yet it is precisely the contrary, as I have constantly observed. It is always the tuberculous phthisis that is met with in examples which are adduced in favour of the production of phthisis by acute or chronic inflammation. We have only to consult in the different treatises on phthisis the facts relating to it, in order to be persuaded, even to conviction, that these also, like those which I have observed, ought to be referred to tubercular phthisis."

M. Bayle's opinion, that phthisis is almost always incurable and fatal, is calculated to depress all endeavours to discover a method of cure; but our attention must not be relaxed, for he adds, truly, that it is often confounded with other diseases, some of which are easily cured, and that, by proper treatment, the fatal event may sometimes be postponed for many years. The treatment recommended by preceding authors, appears to M. Bayle defective, as they did not distinguish the several species, which, depending upon distinct causes, require different remedies.

" In fact, we cannot know with accuracy what the indications are in consumption of the lungs, until we have learned to distinguish its species; since, as we shall see by and by, each species is of a different nature, and presents particular indications. Besides, it is impossible to treat a patient properly, unless the indications which the nature of the disease presents be accurately fulfilled. When we mistake the species of phthisis, we mistake also the true indication, for this is subordinate to the nature of the phthisis; therefore we cannot treat the disease properly. If we do decide on a course of treatment, we act at random, and often lessen the chances of cure or of relief the patient might have had if left to the aid of nature. What I advance as to the difference of treatment which suits each species of phthisis cannot be disputed: for can one hope to cure or to relieve, by the same means, cancerous and scrofulous affections? and is it proper to treat in the same manner phthisis from calculi, and that which is the effect of an ulcer?

"One cannot then investigate with too much care what is the species, and what the real nature of the phthisis which we have to treat; since it is essential, in order to enable us to decide upon a suitable treatment: and yet it has been very little developed by authors, for which reason I shall undertake the subject here.

"In each of the six species of consumption which I have described, the affection of the lungs is of a peculiar nature, and belongs to an order of morbid alterations which does not develope itself exclusively in the organ of respiration. To be convinced of this, let us examine each of the diseases to which the different species of phthisis may be referred. These diseases are tubercles, cancer, melanosis, calculi, ulcers, and the development of accidental cartilages.

"Tubercular affections and cancerous diseases discover themselves, as we know, not only in the lungs, but also in almost all other parts. Calculous concretions also form in different organs; and those which are found in the lungs of consumptive persons appear of the same nature as the calculi, and collections of calcareous matter, which are seen in the articulations of some gouty persons. The melanosis is a peculiar degeneracy which affects the lungs, the liver, the mesentery, the intestines, and other organs. Ulcers may shew themselves in all parts, and most of them are connected with a general disposition. Transparent miliary granulations hold a connection with the spontaneous development of accidental cartilages; and these cartilages do not occur in the lungs alone, but also in the intestines, in the peritonæum, in the womb, in the heart, and in many other parts."

M. Bayle then proceeds to speak of the treatment of each species of phthisis, of their complications and symptoms, and of the selection and appreciation of the principal means to be employed. For these we must refer our readers to the work itself.

The number of phthisical patients in the Hotel Dieu, has enabled M. Bayle to give some curious tabular views, illustrative of the history of this formidable disease.

"The different kinds of phthisis are by no means all equally frequent. From the facts which I have collected, one might determine their relative frequency by the aid of the following table, extracted from an account taken of 900 dissections:—

Tubercular phthisis	624
Granular phthisis	183
Phthisis with melanosis	72
Ulcerous phthisis	14
Calculous phthisis	4
Cancerous phthisis	3
	900

"In this table I have referred to the same species the particular cases in which this species was simple, and those where it was predominant."

The actual frequency of the disease is dreadful. M. Bayle calculates that one-fifth of the deaths in Paris is caused by phthisis, and that, besides, one-tenth of those who die of other diseases was phthisical.

The following table shews the mortality of phthisis at different ages.

Age.	No. dead.	Age.	No. dead.	
From 15 to 20 years	10	From 40 to 50 years	21	
20 to 30 —	23	50 to 60 —	15	
30 to 40 —	23	60 to 70 —	8	100

It appears that nearly the same number of phthisical patients die in every season of the year.

Number of consumptive persons who died in autumn, 64—winter, 58—spring, 54—summer, 68.—Total, 244.

In regard to the duration of phthisis, the following table gives satisfactory information:

Months.	Deaths.	3 Months.	Deaths.	6 Months.	Years.	Deaths.
1	1	1st	16	1st 60	1st	124
2	6					
3	9					
4	12	2d	44			
5	14					
6	18					
7	18	3d	44	2d 64		
8	14					
9	12					
10	8	4th	20			
11	7					
12	5					
				3d 30	2d	48
				4th......20		
					3	6
					4	5
					5	3
					6	1
					7	3
					8	1
					9	3
					From the 9th round to the 40th	6
					Total	200

"Tubercular phthisis seems to be the species which, under all circumstances, is the soonest fatal, by carrying through all the stages those who, in truth, had the seeds of the disease, but never till then felt any symptom of it."

"Phthisis with melanosis appears to be that which commonly lasts the longest; but of those in whom the phthisis lasts a great many years, some are affected with tubercular phthisis. There are then but few tubercles, and the ulcerations produced by the tubercles seem to form a purely local disease, which does not affect the vital functions."

The ninth and last chapter constitutes two-thirds of the whole bulk of the book. It contains a detail of the principal observations, 54 in number, from which M. Bayle has derived his opinions, and thus he enables others to judge how far they seem to be warranted, besides presenting us with very valuable materials for a history of this disease.

The work is concluded with a recapitulation of some points of doctrine which M. Bayle considers as established in his treatise.

"1*st*, When an accidental disease destroys a person affected with pulmonary phthisis in its commencement, or at its first degree, we always find the lesions of the lung I have mentioned, and no appearance of their tendency to get well. It is not from two or three insulated observations that I discovered this truth: it is from very extensive inquiry, and after numerous dissections of subjects in whom phthisis was at its first periods.

"2*d*, Chronic peripneumony, obstruction of the lungs, chronic pulmonary catarrh, symptomatic catarrh, which accompanies diseases of the heart, and other affections of the chest, sometimes resemble phthisis pulmonalis. But when individuals die of any of these disorders, or when any other accidental cause brings on their death, we do not find in the lungs any of the lesions which are remarked in the first degrees of pulmonary phthisis.

"3*d*, When phthisical persons have had partial inflammations of the parenchyme of the lungs surrounding the tubercles, or when they have experienced severe hæmoptysis which has endangered life, if they recover a better state of health, and after having been in marasmus, appear convalescent, they still retain a dry cough or some other symptom, which discloses the existence of phthisis, of which the progress is not interrupted, though the complication which made it more alarming has been cured. Some individuals arrived at this state of apparent convalescence sink under some other accidental disease, and the state of the lungs demonstrates then most evidently that phthisis was not getting better. Tubercles in the lungs never terminate in resolution, any more than those which arise in other parts: they remain stationary, or have a tendency to grow soft and to suppurate, as I have always stated, as well before the publication of my remarks on tubercular degeneracies as since that time.

"*4th*, Miliary granulations appear to be of a nature similar to that of cartilages; and when they have displayed themselves in the lungs, they produce there a state of irritation, permanent and impossible to be destroyed.

"*5th*, Cancerous phthisis, in its first degrees, is not less incurable than granular and tubercular phthisis; for scirrhous tumours never terminate by resolution, any more than tubercular affections."

"*6th*, I have shewn that we commit great error, when we take for a scirrhus the chronic inflammation of a glandular part; but the error is as great, when we take a chronic inflammation of the chest for a pulmonary phthisis. In both cases we arrive at false conclusions, particularly when the disease terminates in recovery.

"But is it very certain, that the pulmonary phthisis is not a chronic inflammation? We have seen heretofore, that the tubercular degeneracy cannot be considered as a termination of inflammation: we have seen, that, after chronic inflammations which have lasted for a very long time, we did not find in general either tubercles or scirrhi in the lungs. In fine, I have made the remark, that, when tubercles are met with in an individual affected with chronic inflammation of the chest, they are sometimes in the lung of the opposite side to that which is the seat of the inflammation."

"*7th*, It results from what I have stated, that chronic inflammations and catarrhal affections may resemble phthisis, and that they may even contribute to its development. Hence it follows, that physicians of the greatest talents deceive themselves sometimes in the diagnosis of these different diseases; and in consequence of this mistake, we see some individuals get well, whom one would have believed to be affected with an incurable disorder. These cures have given rise to two opinions diametrically opposite, which divide practitioners; some regarding pulmonary phthisis as curable at the second, or even at the third degree—others being convinced that it is incurable at every period."

IV.

A Treatise on the Medicinal Leech; including its Medical and Natural History, with a Description of its Anatomical Structure; also, Remarks upon the Diseases, Preservation, and Management of Leeches. By JAMES RAWLINS JOHNSON, M.D. F.L.S. Member Extraordinary of the Royal Medical Society, Edinburgh. *(Illustrated with Two Engravings.)* London, 1816. Longman and Co. 8vo. pp. 147.

THE fulness of the title of this work precludes the necessity of a regular analysis of its contents. The utility of the leech in the practice of the healing art, especially in the country, where cupping is not commonly successfully performed, renders every thing connected with its history interesting. We must refer to the volume before us for what regards the medical, natural, and anatomical history of the leech, where the reader will find much information, and some novelty. As more immediately connected with the practice of medicine, the following observations on the application of the leech deserve to be generally known:

"But, for my own part, I always trust to their application by the hand. Bring a leech toward the part whereon you intend to fix it, and as soon as it begins to extend the head, to seek an attachment, endeavour that it may affix itself to the place required. Some little dexterity is requisite to make the leech attach itself at the first point of contact, for it often happens that it will pass over a great extent of surface, without evincing the least disposition to bite. In this case, puncturing the part with a lancet offers the only chance of success. When the patient is fearful of the lancet, and one leech only shall have bitten, where several are required, it may be of use to remove it, which is readily done, by inserting the nail of the finger between its mouth and the skin. The blood then flowing from the orifice, will induce the remainder to bite with the greatest avidity. As soon as the leeches are gorged, they drop off; this usually happens within ten or fifteen minutes. Sometimes they remain affixed a considerable time, and become indolent; but they are quickly roused from this state by sprinkling them with a few drops of cold water.

"The leech, when filled, contains from half an ounce to an ounce of blood; and what is worthy of notice, this fluid is preserved in its stomach, in an uncoagulated state, for two or three months, and without producing any offensive smell. The only change it suffers is that of becoming deeper in colour, and a little thicker in consistency. Under some peculiar circumstances the blood, however, will coagulate, and it is then productive of disease. What peculiar action takes place in the stomach of the leech, to preserve for so long a time the blood in a state of fluidity, we cannot well determine. It may, however, be urged as probable, that a fluid is secreted, capable of resisting the developement or play of those affinities which are essential to the putrefactive process.

"When a leech quits the part to which it was affixed, and the blood continues to flow longer than is required, the application of a slight compress will usually restrain it; but should this at any time prove ineffectual, we must have recourse to a compress steeped in some styptic, as brandy or spirits of wine.

"When from their scarcity but few leeches can be procured, advantage may be taken, according to an ancient custom, of snipping off their tail; the blood will then flow, drop by drop, from the artificial opening, as fast as the leech sucks it. But it is of no use to resort to this operation unless the leech is in the act of suction; for should the pressure from the column of descending blood be removed, this artificial opening would be immediately closed by the strong action of the circular muscles. With the same view, an incision may be made close to the tail of the leech with a lancet.

"I have frequently performed this experiment, and, what is remarkable, have found them to suffer, apparently, so little from the operation, that they still drew the blood with as much freedom as before. In one instance, in a leech just fallen off and fully gorged, I employed this method of ridding it of its contents; and, severe as many might deem this treatment, the leech was no sooner returned to its former situation, than it began sucking with the same avidity as when first applied. Although the leech appears at the moment to suffer from this practice but trifling inconvenience, yet it afterwards becomes very languid; I would therefore only propose its adoption, at a time when, as before noticed, their scarcity might render such a measure expedient.

"To make a leech disgorge, the most common practice is, that of strewing the muriate of soda, or common salt, over its body. In a few seconds the blood is rejected, the leech assumes a coiled form, and loses its activity and vigour; and we seldom find it again fit for use until the expiration of four or five days. As the salt frequently blisters the body, we are advised to apply it only to the mouth; but I must remark, that if the lips are blistered, the same obstacle is presented against its re-application.

"To remedy this convenience, we are recommended to draw the leech between the thumb and finger of the left hand, keeping up a regular and uniform pressure, until the whole of the blood is removed. This practice is certainly preferable to the former; for the leech continues active, and will again immediately affix itself. But the great disadvantage is, our being scarcely able to carry it into effect without injury to the internal structure.

"In preference to any of these methods, and one from which the leech appears to suffer the least inconvenience, is that of pouring a small quantity of vinegar upon the head. Following this mode of treatment, I have succeeded in making a leech bite four times successively, coming off each time completely gorged with blood.

"It will be scarcely necessary to observe, that leeches recently applied should be kept by themselves, and should be allowed to retain, for their nourishment and support, about one-third the quantity of the blood they extract."

V.

Commentaries on the Treatment of the Venereal Disease, particularly in its exasperated state; including a second edition of a former Publication on that subject, considerably augmented and improved. On the use of Mercury, so as to insure its successful effect. With an Appendix, on Strictures of the Urethra, and on Morbid Retention of Urine. By EDWARD GEOGHEGAN, Member of the Royal College of Surgeons in Ireland, &c. &c. London, 1814. 8vo. pp. 219.

THE difficulties which occur in the treatment of syphilis are so great, that it requires the employment of the best talents and experience to elucidate them. Various disputes have existed, whether the treatment of the disease ought to belong to the province of the physician or surgeon, and a great many arguments have been adduced in support of these two opinions. It is generally a constitutional disease, but the local symptoms are often very troublesome; and the separation of the healing art into medicine and surgery, has in no instance so materially impeded the improvement of both. It is also to be regretted, that writers on syphilis have not been sufficiently accurate in their descriptions, and have entered into theoretical discussions, instead of detailing the circumstances that constantly occur in medical and surgical cases, the careful attention to which can alone afford us correct rules for the treatment; and many considerations have been overlooked, which, if minutely attended to, would materially influence the practice.

The intention of the author of the present work is not to describe every form which the venereal disease exhibits, but to confine himself to some aggravated symptoms, in the treatment of which he has had considerable experience. These are, *phymosis in its inflammatory stage, phagedenic chancre, venereal bubo, affections of the fauces, and on the use of mercury*, so as to insure its success.

We have had an opportunity of witnessing the crowds of miserable wretches who daily apply for relief at the Lock Hospital in Dublin, labouring under all of the most aggravated forms of the disease; and the author mentions, that for many years his attention had been particularly turned to the treatment of these states, but that it was more particularly excited by the violence of the symptoms which occurred in the summer, autumn, and winter of 1799, and he found that other practitioners had made the same remark.

When a disease, which commonly presents mild symptoms, is unusually exasperated, we are naturally led to inquire, to what we are to attribute this change. If it were to the increased acrimony of the poison, mercury would be the antidote; but there is nothing more common, than to ascribe the venereal appearances which resist the effects of mercury, or are increased by it, to some peculiarity of constitution, and bark, wine, opium, sarsaparilla, are thrown in indiscriminately. After pointing out the indecision and fallacy of Mr Hunter's advice on this point, the author observes,—

> "With respect to the question, whether increased acrimony of the poison has any share in producing these aggravated symptoms? Here it is necessary to take a view of the effects usually attendant on its application in the first instance—when applied to a non-secreting surface, ulceration is the usual consequence; and, although this state is accompanied by some degree of inflammation, yet it is rather circumscribed, and the ulcerative process goes on more rapidly than the inflammatory, and, indeed, the latter is often totally absent. Females having the slightest appearances, without any inflammatory symptoms, ignorant, indeed, of being infected, constantly communicate the disease, and the persons whom they have infected show the disease in various degrees and forms; in one man it will exhibit the most trivial, in another the most violent symptoms, although both have been infected by the same woman, and at nearly the same time. Taken into the stomach, it produces no effect, and even proves harmless to many persons who expose themselves to it; it also remains in the habit for years, without manifesting itself, or exciting the least disturbance. In the small-pox, we every day see the same infection produce the disease in one subject in the mildest, in another in the most malignant form. These facts establish the principle most unequivocally, that mild or violent symptoms, whether accompanied by inflammation, or ulceration, or in whatever form they appear, are not characteristic of the degree of acrimony in the infectious matter; hence we have no reason for attributing the aggravated state to the infectious matter alone; we are led, then, to look for an explanation of the phenomenon from some other cause. It is a common phrase, when things run untowardly, to say, this is owing to *peculiarity of constitution;* but in what this peculiarity consists we are uninformed, and, of course, are without any guide as to the treatment. Whilst I agree that the true source of the mischief is in the state of the constitution, I cannot but express my astonishment at the narrow view that is generally taken of this very material point. One would think, from the plans of cure laid down, and usually followed, that this condition of body meant something fixed and definite, not that fluctuating state which is liable to vary with every breeze."

The principle contended for is generally admitted, and we proceed to its application to the subject before us. The diseases of the penis are frequently aggravated independently of the poison, which merely predisposes the part to be acted on by remote causes. Therefore we find that these symptoms frequently supervene, when the true venereal chancre has healed, and the system is fully charged with mercury, or when the body is reduced to a state peculiarly liable to be acted on by adventitious diseases. We have recently met with cases of true chancre, which healed under the use of mercury; while ulcerations that have appeared during the course of the cure, having put on the malignant appearance, particularly at the moment when the true venereal chancre was healed. In such cases, we are disposed to coincide with the author, in considering the continuance of the mercury as not only unnecessary, but even hurtful; and it is in such cases that the use of the sarsaparilla, as mentioned by the author, is particularly beneficial; and the practice of many medical men, of resuming the mercury when the sores are nearly healed, is evidently attended with very injurious effects.

With the author's remarks on the treatment of phymosis, we perfectly agree. Many old practitioners, in such cases, seem to think the exhibition of mercury in larger quantities the sole point of practice to be attended to; but, as the author remarks, the inflammation is greater than that usually produced by the venereal virus; it often appears where the other symptoms are mild, and the mercury exerting its full effects; it is frequent in the ill-aired wards of hospitals, and when diseases arise depending on the state of the atmosphere; in short, it is an accessary disease, and requires to be removed, before the cure of the original complaint is attempted.

"From this view, namely, that this symptom is not occasioned by the virus, and that mercury is not only unnecessary, but prejudicial, I would reject its use *in toto*, and treat the complaint as common inflammation, demanding prompt and vigorous measures for its cure. The great functions of the penis require that it shall be often distended, and for this purpose, an extraordinary quantity of blood is determined more frequently to it, than to any other part, and its return is in a great measure impeded. This structure and its natural sensibility dispose it to be rather suddenly inflated when irritated, and I think points out a leading feature in the treatment; to lessen the determination of blood to the part, and to allay local irritation; the former will be best effected by blood-letting, and the other evacuations; the latter, by such applications as are refrigerant and sedative. If the symptoms run high, I take off a pound of blood at the onset, when there is no contra-indication, and I never find it necessary to repeat it; if the symptoms are moderate, I omit bleeding, and direct brisk purging in the day, and at night two grains of antimonial powder, and one grain of opium in a pill, which latter I repeat after six hours, if the distress continues. The tongue is generally furred, skin hot, and pulse frequent; a state that forbids every medicine of the astringent kind, and, I think, opium also, unless its use is preceded by evacuations, and it is combined with antimonials or ipecacuanha in the proportion before mentioned."

In the local treatment, in these cases, we have often seen very severe symptoms rather aggravated by the application of leeches; and the author observes, that the bites of these animals are very liable to slough where there is a tendency to mortification. All stimulant injections are hurtful; and warm fomentations of milk and water, or a weak solution of acetite of lead, applied warm, prove the best applications for allaying the morbid sensibility of the parts; or the ointment of the acetite of lead, spread on linen, may be wrapt round the parts.

Of *phagedenic chancre.* In the treatment of this description of sore, we find considerable difference of opinion among authors: many advise the continuance of the mercury, and almost all of them stimulant applications to the sore. On this treatment, the author observes,

"The theory and practice for which I have contended, in treating of phymosis, apply here, namely, that phagedenic chancre is not a truly venereal ulcer, but a *supervening* disease, and that the habit liable to it is apt to suffer materially from the use of mercury; an high degree of morbid sensibility is manifest in every such subject, which condition is invariably increased by mercury; and I have observed, that a sloughy state, whatever might have been its original cause, is increased by this medicine. From this view of the disease, and of the remedy, as more particularly noticed in another part of this work, I am decidedly of opinion, that mercury is injurious in phagedenic chancre, and should be excluded entirely from practice, as an internal and external remedy. I know that several practitioners discontinue it for a time, and resume it on a change of appearances; in the opinion that it is dangerous long to withhold the venereal antidote; to which practice I object for the following reasons; once that a morbid condition of body has taken place, under the influence of mercury, that state, in such constitutions as we now speak of, will be continued a length of time, partly because it becomes habitual, from being slowly induced, and partly because the recuperative energy is so feeble in them, as to require a long restorative process, which mercury will readily interrupt, and in which it will soon shew its deleterious effects; hence the confused appearance of the sore, and the difficulty of its being so unequivocally characterised, as to fix the rule of practice; all is uncertainty, whether the venereal or the mercurial action prevails; experience has confirmed me in the opinion, that it is always the latter, or an accessary disease, that forbids the use of mercury.

To establish this point is of the first importance, but it can never be effected, whilst the practice is pursued of discontinuing mercury for a few weeks, and resuming it after that time. It is also the practice of some surgeons to give acrid preparations of mercury, often in conjunction with frictions."

"Having decided that the restoration of the health is the chief indication, the means of effecting this is particularly to be attended to. When phagedena, or a burrowing sore, is an early symptom, it is almost invariably accompanied by quick pulse, dry skin, furred tongue, and great pain; hence the necessity of purging until the tongue becomes clean, and the anodyne and sudorific medicines, as directed in treating of phymosis. If the distress is excessive, bleeding in proportion to the strength will be advisable at this early period; and in the more advanced stage, warm baths, and the soothing plan. In obstinate cases, a dry and warm atmosphere, particularly in the country, will be of material service. The only medicine I can recommend from experience is sarsaparilla given alone; when it is combined with guaiacum, and the other ingredients that form the decoctum lignorum, the habit is too much excited, an effect that is unfriendly to an irritable condition. I also object to mercury in any form accompanying sarsaparilla, on the same principle, and also for the reasons advanced before, namely, that this description of ulcer is not perpetuated by the venereal poison, and that it has not a venereal origin, in some cases. The effects of mercury appear to me to be of a different nature from those that are produced by sarsaparilla; the former evinces all the properties of an irritant, the other of a demulcent; hence the mercury will countervail the sarsaparilla, provided that the case forbids irritating medicines; that medicines of opposite properties will produce effects, when combined, which, separately, they would be unequal to, I am aware, and am satisfied, that this very combination I now forbid, is advisable in some particular cases of the venereal disease; but having witnessed the worst consequences from the use of mercury in every form, and finding that the records of practice abound with similar cases, I feel warranted in insisting, that its administration as an antisyphilitic is improper in the treatment of the particular sore, and state of body, I speak of, whatever might have been the original cause."

It has been often remarked, that the scrofulous diathesis is frequently roused by the venereal virus, and the long continued use of mercury, and it is in such cases that the sarsaparilla is most beneficial. The best mode of using it is in the form of decoction; and, at the same time, attention should be paid to the diet. The food should be of easy assimilation, and not stimulating; milk and vegetables form the best articles; and, in all irritable habits, animal food, wine and cordials, and the tonic plan, should be used with caution.

With regard to the local remedies, the author recommends the fermenting poultice of a large size: but it is sometimes too irritating, and we have seen substituted, with advantage, the poultice of linseed meal; or the unguentum elemi, much diluted, may be substituted. In obstinate sores that do not slough, a very weak nitrate of mercury ointment may be used. All applications of a more stimulant nature are hurtful.

It has been a common practice to resume the use of mercury when the bad symptoms are nearly removed; but the author observes, that his experience leads him to depart from this practice; and we had within these two years a well marked case of its bad effects. It is more prudent to allow the sore to heal, and to be regulated by the subsequent appearances, how far the mercury may be at all required. The author says that he has met with cases where the disease never returned.

The author now proceeds to point out the application of the general principles he has so ably discussed, as applicable to the treatment of bubo in its aggravated form, and the ulceration of the fauces. But here it is unnecessary for us to follow him. We would rather reserve the details for the perusal of our readers in the original work. He concludes by some remarks on the best mode of exhibiting mercury, so as to insure its effects in curing the disease. It is a common practice to throw in the mercury very rapidly at first, with the view of charging the system, and preventing the further progress of the disease; but this mode is apt to excite too much, and to develope diseases to which the habit is subject. The author, therefore, advises a smaller quantity, as a scruple of the ointment, to be used daily for a week, and increased by degrees according to its effects. He also disapproves of the practice of giving pills at the same time with the ointment, on account of the increased dose, and because it exhausts our resources too soon. The propriety of confinement, during the use of mercury, is generally acknowledged; but practitioners are often necessitated to comply with the wishes of the patient, and his desire to conceal the disease.

The author concludes these commentaries with some useful practical remarks on the treatment of strictures, fistula in perineo, and the introduction of the catheter in retention of urine.

We have bestowed much attention on the numerous important practical points treated of in this small volume, and we think it a work that will reward its careful perusal. It is evidently written by a surgeon who has had many opportunities of witnessing the effects of the different modifications of cure, which he shews to be essential for the successful treatment of this direful malady.

PART III.

MEDICAL INTELLIGENCE.

***REPORT** of DISEASES treated at the* PUBLIC DISPENSARY, *near Carey-Street, London, from February* 29th *to May* 31st 1816.

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Febris	20	Enteritis	3
—— infantum remittens	8	Splenitis	1
Cynanche tonsillaris	5	Dysenteria	9
———— parotidæa	2	Scarlatina	4
Pleuritis	6	Rubeola	5
Peripneumonia	10	Variola	1
Catarrhus	92	Urticaria febrilis	3
Pertussis	6	Rheumatismus	3
Phrenitis	1	Convulsio	1
Peritonitis	2	Apoplexia	1

CHRONIC DISEASES.

	No. of Cases.		No. of Cases.
Vertigo	10	Ascarides	1
Cephalæa	23	Tænia	1
Catarrhus chronicus	22	Nephralgia	4
Phthisis	18	Dysuria	3
Hæmoptysis	11	Hæmaturia	2
Dyspepsia	8	Menorrhagia	11
Pyrosis	2	Amenorrhœa	3
Gastrodynia	12	Dysmenorrhœa	2
Vomitus	5	Leucorrhœa	11
Hæmatemesis	1	Hysteralgia	5
Hepatalgia	5	Prolapsus uteri	2
Icterus	1	Lumbago	5
Diarrhœa	13	Rheumat. chron.	33
Enterodynia	10	Asthenia	6
Constipatio	4	Hysteria	4

CHRONIC DISEASES continued.

	No. of Cases.		No. of Cases.
Epilepsia	4	Pernis	1
Paralysis	6	Lichen	5
Marasmus	6	Prurigo	2
Hydrops	5	Psoriasis	2
Anasarca	6	Impetigo	2
Cachexia syphiloidea	2	Porrigo	8
Struma	4	Scabies	5

A chilly and ungenial spring, which has retarded the progress of vegetation much beyond the usual period, has also prolonged the duration of catarrhal and rheumatic complaints, and rendered them obstinate and difficult of cure; so that those who happened to be attacked in the early part of the season, were often unable to conquer their disorders till towards the close of it. Other diseases do not seem to have been very rife; so that the character of the epidemic constitution has been principally catarrhal. The eruptive contagions never cease to shew themselves in this extensive metropolis, and even small-pox still continues to add some victims to swell the weekly bills of mortality; but we have had occasion to see but a few scattered cases of these exanthemata during the last three months. Typhus, or common contagious fever, has nearly disappeared from our district; for the cases, inserted in the list under the head of Febris, do not approach in any of their symptoms to that character; and it is long since we have witnessed any thing like the spreading of simple fever from one individual to another, in any of the courts and close habitations, which we are called upon to visit. The cases in the list are generally slight attacks of fever, of a gastric origin, with a white and somewhat loaded tongue, little or no affection of the sensorium, but with some manifest disturbance of the stomach or bowels, which yield speedily upon regulating the functions of these organs, with the use of the antiphlogistic regimen.

The term *Cachexia syphiloidea* has been appropriated by Mr Pearson to a class of symptoms, with which he is undoubtedly better acquainted than any other practitioner, but which have not yet, perhaps, been sufficiently investigated to be finally subjected to generalization. It expresses the leading characteristics of this polymorphous disease with brevity, and is less equivocal than *pseudo-syphilis*, and some other appellations that have been proposed, as it implies merely a malus habitus, resembling, in its external signs, the morbid state which the poison of syphilis induces. The symptoms of syphilis were soon detailed with great minuteness and accuracy, and mercury early ascertained to be its specific remedy; but it seems to have first occurred to the sagacity of John Hunter, that such symptoms were not invariably the result of the syphilitic virus, nor invariably required the specific treatment. Observation has subsequently confirmed that opinion, and greatly extended it; insomuch that the soundest observers begin to admit, that there are, in fact, no symptoms which unequivocally characterize a disease of syphilitic origin, or unequivocally indicate the necessity of administering mercury; and that it is only by combining an examination of the appearances, with a history of their origin and progress, and of the treatment to which they have already been subjected, that a satisfactory conclusion can be deduced. Neither the nodes of the periosteum, the ulcerations of the fauces, nor any of the modifications of cutaneous eruption, upon which so much stress has been laid, can be relied upon as unequivocal indications of a syphilitic or non-syphilitic disease. An ingenious attempt has indeed lately been made with great confidence, in the sister island, to settle the characteristic eruptions connected with particular modifications of the cachexia, resulting from specific primary ulcerations, as well syphilitic as non-syphilitic; but, anxious as every zealous practitioner must be for solid instruction upon this subject, and ready as every friend of independent inquiry to admire the acuteness of the suggestion, it is but too manifest that this attempt is premature. If the point, indeed, could be thus expeditiously settled, it would have been determined long ago. The practical inference, from this state of uncertainty in the diagnosis, however, is, that we should be extremely cautious in pronouncing diseases to be syphilitic, without a careful examination of their history and treatment, and of subjecting a cachectic patient to the severity of a mercurial course, when he may be restored to health by more safe and certain means.

London, May 31. T. B.

REPORT of DISEASES treated at the New Town Dispensary, Edinburgh, from February 29, *to May* 31, 1816.

	No. of Cases.
Febris continua - - - -	19
——— ephemera - - -	14
——— intermittens - - -	3
——— dentitionis - - -	13
——— infantum remittens	35
Hydrocephalus - - - -	2
Cephalæa - - - - - -	30
Mania - - - - - - - -	1
Epilepsia - - - - - - -	3
Convulsio - - - - - - -	6
Chorea - - - - - - - -	2
Ophthalmia acuta - - -	25
———— chronica - -	26
Cataracta - - - - - - -	3

	No. of Cases.
Amaurosis	1
Fistula lacrymalis	2
Otalgia	5
Surditas	5
Odontalgia	12
Ulcera faucium	5
Cynanche tonsillaris	16
——— trachealis	1
Catarrhus	87
Pneumonia	26
Pleurodyne	20
Phthisis	37
Asthma	10
Hydrothorax	5
Pertussis	24
Palpitatio	7
Aneurisma aortæ	1
Hepatitis acuta	1
——— chronica	5
Icterus	5
Gastritis	1
——— erythematica	1
Fungus hæmatodes ventriculi et hepatis	1
Dyspepsia	72
Hypochondriasis	3
Hysteria	10
Enteritis	1
Obstipatio et colica	27
Vermes	35
Diarrhœa	19
Dysenteria	11
Tabes mesenterica	6
Hæmorrhois	4
Fistula ani	1
Hernia	7
Ascites	2
Hydrops ovarii	1
Dysuria	5
Hæmaturia	1
Gonorrhœa	3
Hæmorrhagia uteri	8
Leucorrhœa	6

	No. of Cases.
Scirrhus uteri	2
Amenorrhœa	8
Dysmenorrhœa	5
Rheumatismus	46
Paralysis	9
Morbus spinalis	6
Caries	1
Rachitis	5
Scrofula articulorum	12
——— glandularum	14
Syphilis	1
Phlegmasia dolens	1
Venæ varicosæ	2
Tumores	15
Phlegmon	32
Ulcus	11
Mastodynia	7
Erysipelas	3
Erythema	2
Variola	4
Varicella	4
Scarlatina	1
Miliaria	1
Urticaria	1
Strophulus	3
Lichen	2
Prurigo	1
Lepra	7
Psoriasis	4
Purpura	1
Ecthyma	3
Impetigo	13
Porrigo	24
——— decalvans	1
Psora	49
Herpes	6
Acne	1
Eruptiones variæ	5
Fractura	1
Vulnus	6
Ustio	9
Contusio et subluxatio *	31

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* The list above given, though referring to the practice of only three months, comprises, in consequence of the increase of applications, almost exactly the same number of cases with that given in the last Report of six months, and may therefore be fairly compared with it.

The spring has been remarkably backward, in consequence of the long continuance of the easterly winds, and the coldness of the north-west wind, which began to prevail after the middle of May. A greater quantity of snow has lain throughout the spring on the Grampian hills, than has been remembered for many years. The hedges in the neighbourhood of Edinburgh were only beginning to bud in the end of April, and at this date (June 10th) there is hardly any foliage on the oak, and none at all on the ash.

The diseases most common during winter, particularly affections of the chest, have in consequence prevailed to an unusually late period in the spring; and it may be observed, that the strictly inflammatory complaints of this class have borne an unusually large proportion, in the recent practice of the Dispensary, to those of a more chronic kind. In the latter part of May, several well marked and severe cases of pneumonia occurred in adults, and one case of decided croup, and several of catarrh threatening croup, in young children.

The number and severity of the catarrhs of children have, however, been greatly diminished on the whole since our last Report. A boy four years of age, one of the last whom we saw affected in the way then described, became decidedly hectic, lingered till the beginning of May, and then died. On dissection, the lungs were found completely studded with small white tubercles; none of which, however, were in a state of suppuration, nor was there any appearance of active inflammation.

Contagious fever appears to have made little progress in Edinburgh during the last three months, although we understand it has been prevalent in some of the adjacent villages. Almost all the cases of typhus which we have seen during the winter, have been attended with more or less of catarrhal or pneumonic symptoms. In two cases, of children of the same family, this combination existed in a most embarrassing degree, and both proved fatal. The symptoms before death appeared very nearly similar. In both, well marked rigors, great depression of strength, very quick small pulse, hot and parched skin, dry foul tongue, frequent vomiting, cough and dyspnœa, had followed exposure to the contagion, and subsequently to cold and wet. But a very great difference was observed on dissection. In the case of the elder child, the only morbid appearance seen in the chest, was an accumulation of mucus in the whole extent of the trachea and bronchiæ; the lungs had every where their natural spongy texture, and had contracted no adhesion to the pleura. In the other case, which occurred in a child five years of age, the right lung adhered extensively to the pleura; the substance of this lung was in general much firmer than natural, but some parts of it felt soft and pulpy. On cutting into it, the harder parts had the usual condensed appearance of recently inflamed lung, but from the softer portions a dark-coloured putrid fluid oozed out, and these portions were found to have the dark brown colour, the fetid smell, and the loose coherence of sphacelus,—an occurrence which is said to have been observed in some cases of what has been called putrid measles, after a similar combination of inflammation of the lungs with typhoid fever.

As might have been expected from the long continuance of cold and damp weather, there has been a great increase of scrofulous cases in the applications at the Dispensary during the last three months, to an extent, indeed, which is not fully exhibited in the foregoing enumeration. For, besides the increase from the last Report, marked under the heads of Scrofula and Phthisis, it is to be remarked, that a greater number of the cases marked tumours, phlegmon, and ulcus, were evidently scrofulous external affections, and that there was reason to suspect a larger proportion than formerly of the diseases of children, referred to the heads Febris Remittens, Obstipatio, Vermes, and Diarrhœa, to be connected with incipient or partial scrofulous affection of the mesentric glands.

In the midwifery department, of 33 women, who have applied for assistance, there have been delivered 27. Of these the natural labours were 22; of the first class of labours 1; of the third class 1, which required the operation of embryulcia; and 1 complicated with hemorrhage, from the placenta being placed over the os uteri. It may be worthy of remark, that, in this last case, no hemorrhage took place till within three days of the labour commencing, although, as far as could be judged, the child appeared to be at the full period of nine months. The other two cases were premature births. The number of children delivered during the last nine months amounted to 68; viz. 42 male, and 26 females; of the last there were two cases of twins.

On Tobacco Injection in Dysuria. By JOHN ABERCROMBIE, M.D. Fellow of the Royal College of Surgeons, Edinburgh.

IN the beginning of this year, I had occasion to see a man, aged about 50, affected with severe pain at the neck of the bladder, and constant desire to pass urine, which he could only do in quantities of a few drops, with great feeling of heat, and extreme suffering. The complaint had continued several days, large bleeding, anodyne glysters, and all the usual remedies, had been tried without effect. I recommended a trial of the tobacco injection: One was accordingly given, but it was so weak, and produced no effect, only ℈i of tobacco having been used. In the course of an hour, a second was given, prepared from ʒss of tobacco, infused for 10 minutes in 6 or 8 ounces of hot water. This produced considerable sickness, some vomiting, and giddiness. In a very short time, he felt a strong desire to pass urine, and upon making the attempt, a large calculus came rolling along the urethra, with complete relief of all his complaints.

This remedy has lately been employed in London, in several cases of suppression of urine, as detailed in the last Volume of the Medico-Chirurgical Transactions. I imagine it might be employed with great effect in those cases (often cases of extreme suffering) which depend on calculi sticking in the ureters.

Account of some of the most Remarkable Proceedings of the Medico-Chirurgical Society at Berlin, 1815. *Communicated by* Dr Von Embden, *Licentiate of the College at Berlin, and Physician at Hamburgh, and Member of several Learned Societies.*

Dr and Professor Wolfart presented to the Society several patients he had cured by animal magnetism. A child of two years which had laboured under a palsy of the left arm and foot, moved the arm readily after the second magnetisation. Another, four years old, which had been quite stupid, covered with an exantheme, and could neither see, hear, nor walk, was brought to improve in vivacity, appetite and strength, and actually began to hear and to see, by the use of magnetism and two baths weekly. A soldier, who having been shot through his hand, and had lost its use, recovered it by the application of magnetism. Another, whose arm, after being shot through, had got stiff and emaciated, was perfectly cured by magnetism, after the Landerh waters had been used without effect. At the first operation he felt drawing pain in the affected arm, especially through the wound.—The Doctor concluded this lecture with reading a treatise on the best mode of applying magnetism in stiffness and emaciation produced by wounds.

Dr and Professor Klaproth read a treatise on the bezoardic stone, and produced several most curious samples; in particular, that of the malachite hedge-hog. Having made some chemical experiments with it, he found it to be a peculiar substance, quite different from all others. He also recited a case of henthat being used as sallad, the effects of which were obviated by vinegar.

Dr Runymann delivered a history of a poisoning by mercurial vapour, shewing its first symptoms by a convulsive struggling in the hands, which afterwards communicated itself to the knees, and then affected the organs of speech. The patient did not get over it till after a twelvemonth's perseverance in the internal use of hepar sulphuris, combined with sulphureous baths. He also mentioned the case of a frost-bitten foot, which had been entirely mortified, it having been quite sphacelous and black without either feeling or motion. He ordered the foot to be immersed in snow for 36 hours, by which it revived, and got colour and feeling again, excepting three toes, which gradually got loose, and finally separated.

Dr and Professor Turtle communicated the analysis of the urine of an herpetic patient, which was found to contain a great proportion of phosphate of lime.

Dr Schweitzer mentioned a number of cases of ophthalmia, neonatorum, spasms, hooping-cough, and scrofulous ophthalmia he had cured by animal magnetism. He praises it in particular in the latter case, and assures, that, of 60 children he had cured, he had occasion for nothing else but a good regimen, baths, and magnetism. He also asserts it to be very efficacious and expeditious in cardialgy and menostacy. He concluded with the case of a man, who, having laboured many years under strangury and irregularity of the bowels, was cured by magnetism.

Dr Fleins read the history of a respectable tradesman, who, fourteen years ago, after having been quite well, suddenly awoke in the night, and, without the least provocation, ill-treated his wife in a terrible manner, endeavouring to throw her out of the window. After struggling half an hour, he was spent. The wife's clamour having brought assistance, an emetic was given him, and he recovered from his momentary madness, the symptoms of which have never since returned: A case most remarkable, as well for morbid psychology, as forensic medicine; the doctrine of periodical insanity, and imputation to vice.

Dr and Professor Horn spoke of the disorders of the mind, and their psychical treatment, which, in his opinion, by no means always answers the purpose. He also treated of the turning-machine lately introduced in the Charité, which he finds particularly useful in that kind of insanity proceeding from a psychical cause, in violent delirium, and in creating fear and obedience. Its primary effects are anxiety, anguish, sense of illness, headach, vertigo, strangling, first redness, and the paleness of the face.

Copenhagen.

According to a report of the Royal Committee for vaccination, the number of vaccinated in Denmark, as far as was published, amounted in 1802 to 6498, in 1803 to 14,492, in 1804 to 7985, in 1805 to 23,155, in 1806 to 23,465, in 1807 to 7577, in 1808 to 27,556, in 1809 to 11,688, in 1810 to 35,409, in 1811 to 36,074, in 1812 to 25,808, in 1813 to 21,251. Total in twelve years, 240,399, exclusive of those vaccinated in the Royal Danish German territories, and in the latter years, even of those in Greenland, Färöern, Iceland, and the Transatlantic Danish settlements. The report ends with this final observation, "The committee might add the assurance, that if the present resolution is further persevered in, Denmark will no longer have to dread an epidemy of the small-pox, but may consider them and their dreadful consequences as totally exiled from the Danish states, vaccination having made so rapid a progress, that we look in vain for a similar instance in any other state or province."

The most remarkable fact noticed in the last report of the National Vaccine Establishment, is the following letter from the Sovereign of St Domingo:

"*Au Palais de Sans Souci,*
le 5^{e} *Fevrier* 1816, *l'An* 13^{e} *de l'Independence.*

"Le Roi à Monsieur James Moore, Directeur de l'Etablissement de la Vaccine Nationale Britannique, &c. &c.

"MONSIEUR,—Mr Prince Sanders m'a presénté de votre part l'ouvrage que vous m'avez addressé sur la maladie de la Petite Verole; j'ai accepté cet ouvrage avec plaisir, et vous remercie infiniment pour votre honnéte et obligeante attention, et l'interet que vous voulez bien prendre à la conservation des Haitiens.

"La precieuse découverte de la Vaccine est trop importante pour la vie des hommes, elle honore trop l'humanité pour que je ne l'adopte pas das mon Royaume. A l'arrivé de Mr Prince Sanders, j'ai fait mettre en usage la Vaccination, pour être de suite generalement suivie par les Medecins Haïtiens; nous avons une quantité innombrable d'Enfants à Vacciner.

"Mon intention est de faire donner toute la latitude possible aux heureux resultats de cette immortelle decouverte que je n'avais pas été a même de faire mettre jusqu'ici en pratique par les contrariétés que j'ai éprouvé dans les demandes que j'ai faites à la Jamaïque, Saint Thomas, et les Etats Unis d'Amerique, relativement à cet objet, dont j'ai appris les salutaires effets. Ce bienfait ajoutera encore à la reconnaissance des Haïtiens envers la grande et magnanime Nation Britannique.

"J'ai chargé Mr Prince Sanders de vous temoigner personellement mes vifs et sinceres remerciemens. "HENRI."

An Abstract of the Registry kept at the Lying-in Hospital in Dublin, from the 8th of December 1757, *(the day it was first opened,) to the* 31*st December* 1814.

Year ending 31st of December.

From 8th to 31st Dec.	Patients admitted.	Went out not delivered.	Delivered in hospital.	Boys Born.	Girls. Born.	Total of children.	Women having twins and more.	Children dead.	Children still-born.	Women dead.
1757	55	—	55	30	25	55	— — —	6	3	1
1758	455	1	454	255	207	462	8	54	21	8
1759	413	7	406	228	192	420	13 (1 had 3)	95	22	5
1760	571	15	556	300	260	560	4	116	35	4
1761	537	16	521	283	249	532	11	104	29	9
1762	550	17	533	279	266	545	12	106	35	6
1763	519	31	488	274	224	498	10	94	29	9
1764	610	22	588	287	308	595	7	83	28	12
1765	559	26	533	288	251	539	6	94	25	6
1766	611	30	581	324	261	585	4	111	18	3
1767	695	31	664	373	301	674	10	125	29	11
1768	689	34	655	362	302	664	9	154	47	16
1769	675	33	642	350	301	651	9	152	38	8
1770	705	35	670	372	305	677	7	107	37	8
1771	724	29	695	370	341	711	16	102	44	5
1772	725	21	704	368	344	712	8	116	32	4
1773	727	33	694	367	344	711	17	136	31	13
1774	709	28	681	357	334	691	10	134	29	21
1775	752	24	728	364	378	742	14	122	27	5
1776	833	31	802	418	407	825	22 (1 had 3)	132	39	7
1777	872	37	835	452	395	847	12	145	35	7
1778	961	34	927	476	460	936	9	127	39	10
1779	1064	53	1011	550	476	1026	15	146	59	8
1780	967	48	919	499	441	940	21	115	41	5
1781	1079	52	1027	598	447	1045	18	121	38	6
1782	1021	31	990	549	458	1007	17	127	57	6
1783	1230	63	1167	632	553	1185	17 (1 had 3)	91	72	15
1784	1317	56	1271	643	641	1284	23	76	68	11
1785	1349	57	1292	711	610	1321	28 (1 had 3)	87	75	8
1786	1396	45	1351	716	656	1372	21	51	101	8
1787	1418	71	1347	705	670	1375	28	59	95	10
1788	1533	64	1469	725	771	1496	25 (1 had 4)	55	73	23
1789	1497	62	1435	745	707	1452	17	58	84	25
1790	1610	64	1546	813	766	1579	32 (1 had 3)	61	88	12
1791	1671	69	1602	842	782	1624	22	75	87	25
1792	1701	70	1631	858	806	1664	31 (1 had 3)	65	83	10
1793	1811	64	1747	941	845	1786	38 (1 had 3)	68	71	19
1794	1595	52	1543	835	744	1579	34 (3 had 3)	70	60	20
1795	1585	82	1503	827	719	1546	42 (1 had 3)	72	57	7
1796	1684	63	1621	857	788	1645	23 (1 had 3)	67	83	10
1797	1768	56	1712	908	840	1748	35 (1 had 3)	41	97	13
1798	1674	70	1604	845	789	1634	29 (1 had 3)	47	103	8
1799	1620	83	1537	829	748	1577	38 (1 had 3)	53	84	10
1800	1907	70	1837	965	899	1864	27	51	116	18
1801	1804	79	1725	864	894	1758	31 (1 had 3)	37	111	30
1802	2018	33	1985	1055	957	2012	25 (1 had 3)	27	124	26
1803	2065	37	2028	1065	1000	2065	35 (2 had 3)	74	116	44
1804	1980	65	1915	1013	936	1949	34	54	119	16
1805	2277	57	2220	1239	1031	2270	50	51	138	12
1806	2519	113	2406	1247	1204	2451	45	43	151	23
1807	2603	92	2511	1306	1249	2555	44	50	145	12
1808	2763	98	2665	1373	1334	2707	42	49	149	13
1809	2966	77	2889	1493	1442	2935	45 (1 had 3)	45	165	21
1810	3016	162	2854	1546	1350	2896	42	54	179	29
1811	2720	159	2561	1363	1250	2613	52	50	169	24
1812	2822	146	2676	1498	1316	2814	48	45	137	43
1813	2568	84	2484	1366	1178	2544	59 (1 had 3)	74	125	62
1814	2611	93	2518	1323	1230	2553	35	86	139	25
Totals,	81186	3175	78001	41523	37982	79505	1372	4810	4329	838

Proportion of Males and Females born, about *ten* males to *nine* females.
——— Children dying in the hospital, about *one* to *sixteen*.
——— Children still-born, about *one* to *eighteen*.
——— Women having twins (and more), about *one* to *fifty-seven*.
——— Women dying in child-bed, about *one* to *ninety-three*.
——— Women having three and four children, about *one* to 3545.

Extract of a Letter from Professor Scarpa of Pavia, to John Wishart, Esq. Surgeon, Edinburgh. Pavia, 13*th January* 1816.

I send in a box a copy of all my works, anatomical and surgical, except that on the diseases of the eyes, as the fifth Italian edition will soon be published, the only one which I have revised, since the first, after sixteen years' farther experience. With the books I send four of my cataract needles, and the gorget of Hawkins, as improved by me, in regard to which you will find a memoir of mine. I have seen some of my needles, said to have been made in England, but, from their enormous size, they seem to have been intended to operate on horses, and not on men. Experience has taught me, that, in similar circumstances, the consecutive symptoms are directly as the size of the needle. With regard to the gorget, I beg that you will translate my memoir, that it may become known to the surgeons of your principal hospitals, on account of the rules to be observed in introducing the gorget, the inclination of the cutting edge of which is calculated to perform the lateral incision exactly, if the staff be held quite perpendicular, in the line of the raphe of the perinæum. I can assure you, that, with this instrument, I always make the incision of the prostate sufficiently large, and with certainty, to extract large stones, without fear of injuring the rectum, or arteria pudenda profunda. The cutler, in making this instrument, must attend particularly to the proper inclination between the cutting edge and the hollow of the gorget.

The death of Monteggia is unfortunately true. His sixth volume will be immediately published, but without notes. We have also lost Mascagni.

Among the books I send you, you will also find the *Fisiologia* of Jacopi, a favourite pupil of mine, whose death I deplore; also a memoir by him upon the inutility of the operation of paracentesis for the cure of tympanites, and another upon Darwin's doctrine of the retrograde motion of the lymphatics.

Extract of a Letter from Dr Kaufmann of Hannover, to John Wishart, Esq. Surgeon, Edinburgh.

I intended sending you the description of some singular cases which lately occurred to me. One was a curious disease of the heart, which ended fatally; another was the case of a new born infant, which lived twelve hours after birth, heard, took food, but did not breathe, or cry; it could not suck, but there was a regular motion of the thorax. On dissection, the lungs were found quite consistent, as in a fœtus, with all the tests of having never inspired air; the heart was as usual, but the *foramen ovale* open.

Died, on Tuesday the 18th instant, (June) in the 82d year of his age, Mr Thomas Henry, President of the Literary and Philosophical Society of Manchester, Fellow of the Royal Society in London, and Member of several other learned Societies both in this country and abroad. As a practical and philosophical chemist, he had obtained a high and merited reputation. His contributions to that science, besides a small volume of Essays and his Translations of the earlier writings of Lavoisier, which he first introduced to the notice of the English reader, consist chiefly of Memoirs, dispersed through the Transactions of the various Societies to which he belonged, and relating both to those parts of chemistry that are purely scientific, and to those which have a connection with the useful arts. On a subject intimately connected with the success of the cotton manufacture, (the employment of Mordaunts or Bases in dyeing,) "Mr Henry was the first," to use the words applied to him by a subsequent author, "who thought and wrote philosophically." In the introduction, too, of the new mode of bleaching, which has worked an entire revolution in that art, and occasioned an incomparably quicker circulation of capital, he was one of the earliest and most successful agents. In addition to the acquirements connected with his profession, he had cultivated, to no inconsiderable degree, a taste for the productions of the Fine Arts: he had obtained a knowledge of historical events remarkable for its extent and accuracy; and he had derived, from reading and reflection, opinions to which he was steadily attached, on those topics of political, moral, and religious inquiry, which are most important to the welfare of mankind. For several years past, he had retired from the practice of medicine, in which he had been extensively engaged, with credit and success, for more than half a century; and, from delicate health, he had long ceased to take an active share in the practical cultivation of science. But possessing, almost unimpaired, his faculties of memory and judgment, he continued to feel a lively interest in the advancement of literature and philosophy. Retaining, also, in their full vigour, those kind affections of the heart, that gave birth to the most estimable moral qualities, and secured the faithful attachment of his friends, he passed through a long and serene old age, experiencing little but its comforts and its honours, and habitually thankful for the blessings with which Providence had indulged him.

Dr Clough, 68, Berner's Street, Physician-Accoucheur to the St Mary-la-bonne General Dispensary, and to the Endeavour, or Benevolent Society, &c. commences his Summer Course of Lectures on the science and practice of Midwifery, including the diseases of women and children, on Monday morning, the 7th of July, at half-past ten, and at seven in the evening.

Communications have been received from Mr MACKESY, &c. and publications for analytical criticism, by Professors HUFELAND, AUTENRIETH, and FRORIEP, Drs ALBERS, PARKINSON, MILLS, and CLANNY, Messrs DOUGHTY, WHATELY, and JARDINE.

⁂ Communications may be addressed to the Editors, to the care of Messrs CONSTABLE & Co. Edinburgh; Messrs LONGMAN, HURST, REES, ORME, & BROWN, London; and JOHN CUMMING, Dublin.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Critical Review of the State of Medicine during the last Ten Years. *

When we review with impartiality the history of medicine during its last period, its progressive advancement is undeniable, notwithstanding the despotic obstacles opposed to the free correspondence between civilized nations, and innumerable errors of the human understanding. The Germans, in particular, have reason to rejoice that the ignominious chains laid upon them by rapacious foreigners, could not hinder the unfettered mind from labouring incessantly to extend the empire of truth; nay, that the very circumstance of external oppression seems only to have had the effect of exciting greater efforts towards mental improvement.

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* For this valuable communication we are indebted to a Hannoverian friend, who had promised to send us an account of the latest German medical literature. When preparing to fulfil his promise, the article, of which this is the commencement, appeared in one of the most esteemed literary journals of Leipzig, and superseded the necessity of proceeding in his undertaking.

It is said to be written by the celebrated *Kurt Sprengel,* Professor at Halle, and author of the History of Medicine, and of the Critical Review of the State of Medicine during the last ten years of the 19th century, of which this is properly a continuation. As Professor Sprengel does not confine himself to the progress of medicine in Germany, many additions and corrections might be made in regard to the medical literature of other countries, especially our own, with which there was almost no correspondence during the period of his history; but we have preferred leaving the article unaltered, for many reasons, and shall attempt, on a future occasion, to compose such a view of the recent literature of Great Britain, connected with our profession, as may more effectually correct the errors, and supply the defects unavoidably existing in the production of the learned German. In our translation we have only endeavoured to be faithful; and we fear that we have not always succeeded in rendering the meaning intelligible to those unacquainted with the language of some of the philosophical sects prevalent in Germany, whose tenets are here alluded to.

The scientific part of medicine acquired in Germany and France great additions of new materials, which, though treated in very different ways, and even prematurely formed into systems, never lose their value, however preposterously applied in some instances.

But we shall facilitate this review, by tracing the progress of each branch of medicine separately.

I. *History and Literature of Medicine.*

The frequently repeated complaint of the neglect of the study of the history of medicine seems to be unfounded during this period. For at least in Germany, Italy, and France, its history and literature were more generally studied than in earlier times. *Sprengel's* larger work was translated into French, indifferently by *Geiger*, and better by *Jourdan*; in a masterly manner into Italian by *Arrigoni*, and into English anonymously. *J. C. Nicolai* published an abridgment of *Sprengel's* work,[*] which the author himself had previously done in 1804. *C. Windischmann's* attempt to give the mystical views of medicine a historical dress, is truly ridiculous.[†] *K. F. Luthcritz's* view of the older systems,[‡] as well as *A. F. Hecker's* similar work,[§] have no pretensions to originality.

In France the laudable desire of historical knowledge displayed itself in the most distinguished manner in *Prunelle's*[‖] excellent view of the influence of medicine on the restoration of the sciences in the middle ages, but in a less degree in *P. J. G. Cabanis's* sketch.[¶]

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[*] Das Merkwürdigste aus der Geschichte der Medicin. Th. 1. Rudolst. 1808. 8.

[†] Versuch über den Gang der Bildung in der heilenden Kunst. Frkf. a. M 1809. 8.

[‡] Die Systeme der Aerzte von Hippokrates bis auf Brown. Th. 1, 2. Dresden, 1810, 1811. 8.

[§] Die Heilkunde auf ihren Wegen zur Gewissheit. Dritte Auflage. Erf. 1808. 8.

[‖] De l'influence exercée par la médecine sur la renaissance des lettres, Montpellier, 1809. 4.

[¶] Coup d'oeil sur les révolutions et la reforme de la médecine. Paris, 1804. 8.

Even single points of the history of medicine were more accurately investigated, the history of diseases and of their treatment ascertained, and the fathers of physic re-edited. *Schaufus* promulgated a profound hypothesis on the origin of syphilis among the Hindoos;[*] and *C. G. Gruner* described the progress of the sweating fever in the 15th and 16th centuries.[†] *Gruner's* son shewed, as J. Barker had done 60 years before him, the coincidence of the medicine of the ancients and of the moderns.[‡] A similar title,[§] given to another work, is deceitful. *Quercetanus* also formerly wrote De Priscorum Philosophorum Verae Medicinae Materia; and *Tachenius* published a Hippocrates Chymicus. *And. Ign. Wanruch* again recommended the study of the ancients,[‖] and published a learned inquiry on the antiquities of Typhus.[¶] *W. Falconer* compared the nervous fever with the Morbus Cardiacus of the ancients.[**] *Ant. Jos. Testa* illustrated the latter disease, as also an obscure passage in Aretäus.[††] *E. Wichelhausen* described and recommended the baths of the ancient Romans.[‡‡] *D. P. Assalini* and *J. Eyerel* translated the classical description of the Athenian plague during the Peloponnesian war.[§§] *G. F. J. Nöldeke* gave a masterly translation of the beginning of Galen's most celebrated work.[‖‖] On the other hand, *A. H. Hinze* was unsuccessful in his attempt to translate the aphorisms of Hippocrates.[¶¶] The medical passages in Cicero were merely collected without illustration by *A. M. Birkholz.*[***] An excellent critical edition of Rufus of Ephesus was published by *C. F. Matthäi* of Moscow; but *J. F. Pierer* reprinted *Foë's* translation of Hippocrates without any commentary.[†††]

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[*] Neueste Entdeckungen über das Vaterland und die Verbreitung der Pocken u. der Lustseuche. Leipz. 1805. 8.

[†] Itinerarium sudoris anglici ex actis designatum. Jen. 1805. 8.

[‡] Concordia medicinae veteris et novae vindicata. Jen. 1806. 8.

[§] *J. N. Ringseis* de doctrina Hippocratica et Browniana inter se consentiente et se mutuo explente tentamen. Norib. 1812. 8.

[‖] De priscorum Graeciae ac Latii medicorum studio restaurando. Viennae, 1808. 4.

[¶] Antiquitates typhi contagiosi. Bas. 1812. 4.

[**] Memoirs of the Med. Soc. of Lond. Vol. VI. p. 1.

[††] Delle malattie del cuore, Vol. I.—III. 1811.

[‡‡] Ueber die Bäder des Alterthums. Mannh. 1807. 8.

[§§] Thucydides von der Pest in Athen. Aus dem Griechischen. Wien, 1810. 8.

[‖‖] Galen vom Nutzen der Theile des menschl. Körpers. Aus dem Griechischen. Oldenburg, 1805.

[¶¶] Proben einer Uebersetzung der Aphorismen des Hippokrates. Stendal, 1807. 8.

[***] Cicero medicus. Leipz. 1806. 8.

[†††] Bibliotheca iatrica, Vol. I.—III. Altenb. 1806. 8.

The antiquities of Materia Medica were investigated by *Kurt Sprengel* in his history of botany,[*] and by *J. Stackhouse* in his last edition of Theophrastus;[†] and *S. Hahnemann* published a profound inquiry into the Hellebore of the ancients and its employment.[‡]

Very recently we were unexpectedly gratified by an inquiry into the history of medicine in Russia.[§]

Medical bibliography has been enriched with some valuable works. Those of *K. F. Burdach*[||] and *J. S. Ersch*[¶] are unquestionably the most complete. But the former has diminished the utility of his work by the want of an index, and the latter confines himself exclusively to the works published in Germany during the last half century. The publications of *J. Mayer*[**] and *C. F. Ludwig*[††] cannot bear a comparison with either of these in any respect. On the contrary, *Ploucquet's* great work in its last form[‡‡] has become exceedingly useful. But *K. A. Kortum* has published a very insignificant production.[§§]

Among the periodical publications, embracing medicine in general, *Hecker's* Journal of Discoveries acquired celebrity, and even consideration, by controverting boldly, but often arrogantly, the opinions of the day. It was continued in this manner until the 20th Number of what was called the New Journal in 1809; then some anonymous young men at Leipzig followed Hecker's example, and gave, in the "Newest Journal of Discoveries," some useful enough views: But the old nervous opposition no longer existed, and it lost its attraction for the public. The *Salzburgh Medical Journal* continues to be of great importance, on account of its early notices, and full extracts from medical works. But since Hartenkeil's death, (7th January 1808,) its affected style, unfortunately common in the south of Germany, its fondness for new, high sounding, metaphorical expressions, and sometimes its want of knowledge and judgment, are no recommendations. The Altenburgh "Annals of Medicine," published by

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[*] Historia rei herbariæ, Vol. I. II. Amsterd. 1807, 1808. 8.

[†] Theophrasti Eresii de historia plantarum, libr. 10. Oxon. 1814.

[‡] De helleborismo veterum. Leipz. 1812.

[§] Wilh. Mich. *Richter's* Geschichte der Medecin in Russland. Th. 1. Mosc. 1813. 8.

[||] Die Literatur der Heilwissenschaft, B. 1, 2. Gotha, 1810, 1811. 8.

[¶] Literatur der Medicin. Amst. 1812. 8.

[**] Repertorium der gesammten Medicin. Literatur. B. 1, 2. Berl. 1809. 8.

[††] Einleitung in die Bücherkunde der praktischen Medicin. Leipz. 1806. 8.

[‡‡] Literatura medica digesta. Vol. I.—IV. Tubing. 1808. 4.

[§§] Skizze einer Zeit-und-Literär-Geschichte der Arzneykunst. Unna. 1809. 8.

Pierer, might almost be dispensed with, as they seldom contain any thing not to be found in other works. *Hecker* published before his death (1811) three volumes of the "General Annals of Medicine," which were intended as a substitute for the Journal of Discoveries; but alas, "Nihil est, quod senio non exolescat," Petrarch.—*C. W. Hufeland's* Journal, even up to the last or 39th volume, continues to be universally acknowledged as valuable, not only to the practical physician, but in every department of medicine. The same praise may be given to *Reil's* and *Autenrieth's* archives of physiology, (ten volumes,) and *Horn's* archives of practical medicine. *Harle's* very useful Journal of Foreign Medical Literature, which was afterwards published under the title of Annals of English Medicine and Surgery, was succeeded by his Annals of German Medicine and Surgery, with an addition of the newest and best foreign literature. The Medical Annals of the Austrian States (Vol. I. and II. Vienna, 1813, 1814) have begun excellently. *F. W. J. Schelling's* Annals of Medicine as a science, of which *A. F. Marcus* published the third volume alone, at first contained many valuable papers, but the last editor, on account of his incredible partiality and prejudices, could not give general interest to it, any more than to his Ephemerides of the healing art. *K. Wolfart*, the publisher of Asklepeion, rivals Marcus in partiality, and surpasses him in want of solid knowledge.

Among the French periodical publications, and general literary works upon medical subjects, the *Dictionnaire des Sciences Medicales*, published by a society of the most esteemed physicians, maintains the first rank. The others are chiefly practical Journals; the two best are those published by *Corvisart* * and by *Sedillot.* † The Society of Emulation at Paris also published periodically; ‡ likewise the Medical Society at Montpellier. § For foreign literature, the French had during this period three journals in the Bibliotheque Medicale; in *Kluysken's* of Ghent's Annales de literature medicale etrangère; and in *Gallot's* Nouvelle bibliotheque Germanique de médicine.

In Great Britain, the excellent old London Medical Journal, *Duncan's* Annals of Medicine, and the Edinburgh Medical and Surgical Journal, were continued. *Bradley's* Physical and Medical Journal also contains a rich store of observations, as well as the Transactions of a society for the improvement of medical and chirurgical knowledge; and since the beginning of the year 1814, the London Medical, Surgical, and Pharmaceutical Repository, by *Burrows*, *Royston*, *Thomson*, and *Kerrison*.

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* Journal de Médecine et Chirurgie.

† Journal Général de la Société de Médecine à Paris, ou Recueil périodique, etc.

‡ Mémoires de la Société Médicale d'Emulation.

§ Annales de la Société de Médecine pratique à Montpellier.

In North America, *Smith Barton* published an important periodical work.[*] Equally valuable is that edited by *Millar* and *Mitchell*;[†] but a third, by *Redman Coxe*,[‡] is insignificant.

Among the Italian medical periodical publications, the best are those of *Tommasini*[§] and *Brera*;[‖] the Efemeridi chimico-mediche of Milan, the Memorie della società medica di emulazione of Genoa, the Memorie della società medica of Bologna; and lastly, though in a less degree, the Giornale medico-chirurgico of *Flajani*, are also valuable for the observations they contain.

In Holland, *Stipriaan Luiscius*, *Ontyd*, and *Macquelyne*, published the Geneeskondig Magazin. From the north of Europe the only work of this kind we have seen is *Gadolin's* ärs berättelse om Svenska läkare säilskapetsarbeten. Stockh. 1810.

II. *Anatomy and Physiology.*

Many obscure circumstances, in regard to the structure and functions of the human body, were most advantageously explained by the light which *Bichât* had formerly thrown upon these sciences. His principles had the most direct influence upon the method of treating them, and hence all the elementary books of this period have an advantage over preceding works, with the exception only of *Sömmerring's* Manual. *F. K. Hesselback* published a very useful guide to the art of dissection.[¶]

A short and judicious view of all parts of anatomy, of syndesmology, connected with osteology, was published by *K. L. M. Langenbeck*.[**] *Jos. Oechy*,[††] and *J. C. Loder*,[‡‡] had precisely the same object in view, but we know nothing of the prosecution of their undertakings. *J. C. Rosenmüller's* Manual of Anatomy, 8vo, Leipzig, 1808, is one of the most concise and useful. The most extensive work, but not the best adapted to its purpose, of this kind in Germany, was published by *Jos. Schullgruber*;[*] *J. G. Ilg's* Manual[†] deserves little commendation; but *Blumenbach's* Osteology[‡] is admirably executed, and full of interesting remarks.

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[*] The Philadelphia Medical and Physical Journal.

[†] The Medical Repository.

[‡] The Philadelphia Medical Museum.

[§] Giornale della Società Medico-chirurgica di Parma.

[‖] Giornale di Medicina Pratica.

[¶] Vollständige Anleitung zur Zergliederungskunde des menschlichen Körpers. Arnstadt, 1805—1810 4. Th. 1, 2.

[**] Anatom. Handbuch. Gött. 1806. 8.

[††] Bau des Menschenkörpers. Th. 1. Prag, 1805. 8.

[‡‡] Grundriss der Anatomie des menschlichen Körpers. Jena, 1806.

In France, *J. P. Maygrier* produced a useful manual,[§] and an excellent one was published in Italy by *Ant. Catelacci.*[‖] A masterpiece, as a Manual of Anatomy, appeared in Scotland from *Alexander Monro* tertius,[¶] of which the third volume is chiefly occupied with engravings of objects of pathological anatomy.

The very celebrated delineations of the parts of the human body, which were published by *S. Th. Sömmerring* and *J. C. Rosenmüller*, redound especially to the praise of our native country. Incomparable accuracy of dissection, justness of representation, and fineness of engraving, distinguish *Sömmerring's* plates of the organs of the senses;[**] *Rosenmüller's* have the recommendation of practical utility, as they display the natural situation of parts according to various sections.[††]

Of foreign works of this kind, we only know *Saunders's* masterly views of the human ear.[‡‡]

Comparative anatomy, which is universally acknowledged to be of the greatest assistance to the right understanding of the structure and nature of the human body, has been cultivated with distinguished success in Germany, France, and England. As the principal works of this kind, we can have no hesitation in citing *Cuvier's* lectures, especially as edited by *Froriep* and *Meckel* tertius, in four volumes, 8vo, at Leipzig, 1808, 1810; and Sir *Ev. Home's* last work.[§§] *Tiedemann's* Zoology[‖‖] also deserves particular praise, on account of the excellent anatomy of animals, especially birds, and the applications to human anatomy and physiology. An industrious compilation of *J. W. Linck*[*] and *Blumenbach's* Manual[†] appeared earlier. Single contributions to comparative anatomy were furnished by *J. W. Neergaard,*[‡] *J. F. Meckel;*[§] in particular dissertations;[‖] also in *Oken's* and *Kieser's* contributions,[¶] in *J. C. Häfner's* view of the structure of the nerves in various classes of animals,[**] in *Vinc. Malacarne's* representation of the brain of birds,[††] and by *C. H. T. Schreger*[‡‡] and *F. Tiedemann.*[§§]

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[*] Grundbegriffe vom Körperbau des Menschen. Th. 1—5. Wien, 1808.

[†] Grundlinien der Zergliederungskunde des Menschenkörpers. Th. 1, 2. Prag, 1811, 1812. 8.

[‡] Geschichte und Beschreibung der Knochen des menschlichen Körpers Zweyte Auflage. Gött. 1807. 8.

[§] Manuel de l'anatomiste. Paris, 1807.

[‖] Fondamenti anatomici. Pisa, 1805. 8.

[¶] Outlines of the Anatomy of the Human Body, Vol. I.—III. Edinb. 1813.

[**] Abbildungen der menschlichen Hörorgane. Frkf. 1806. fol. Abbildungen der menschlichen Geschmacks-und Sprachorgane. Frkf. 1808. fol. Abbildungen der menschl. Organe des Geruchs. Frkf. 1809. fol.

[††] Chirurgisch-anatomische Abhandlungen für Aerzte und Wundärzte. B. 1—3. Weimar, 1805—1812. fol.

[‡‡] Anatomy of the Human Ear, with engravings. Lond. 1806. fol.

[§§] Lectures on Comparative Anatomy, Vol. I. II. Lond. 1814. 4.

[‖‖] *F. Tiedemann's* Zoologie, B. 1—3. Heidelb. 1808—1814.

The chemical investigation and analysis of the parts of the body, is a second and very important means of advancing and perfecting physiology, but it was formerly misapplied as furnishing the principles of the science. At present, chemistry is generally considered, in its proper point of view, as the hand-maid, and not as the mistress, of physics. *G. F. C. Kapp*, indeed, has endeavoured to defend the views of the earlier materialists, who look upon life as the result of a determinate composition and form.[‖‖] And *J. F. Ackermann* continues to explain life as a process of slow combustion, by the attraction of oxygen, and its conversion into the state of a half gas.[¶¶] Also, *G. C. Reich* still maintains, that the laws of dead nature are applicable to the living body; and that all the phenomena of the latter may be explained by chemistry.[***] To the abuse of chemistry we may also ascribe the pretended formation of blood, by exposing a mixture of albumen, phosphate of iron, carbonate of ammonia, and muriate of soda, to the positive pole of a voltaic pile.[*] But *N. W. Fischer* (Hufel. Journ. B. 33. § 6.) soon shewed, that the purple fluid obtained was essentially different from blood, for the acid of the muriate of soda attacked the gold of the wire, and formed a kind of purple oxide of gold, which, in a few seconds, gilds copper wire exposed to it. This refutation is conclusive, although it is at once evident, that *Grindel's* artificial blood was prepared of principles which do not exist in real blood.

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[*] Versuch einer Geschichte und Physiologie der Thiere. Chemnitz, 1805. Th. 1, 2, 8.

[†] *J. F. Blumenbach's* Handb. der vergleichenden Anatomie. Gött. 1805.

[‡] Beyträge zur vergleichenden Anatomie. Gött. 1807. 8.

[§] Abhandlung aus der menschl und vergl. Anatomie. Halle, 1806. 8. Beyträge zur vergl. Anatomie. Th. 1, 2. Leipzig, 1808, 1809.

[‖] *A. Arsaky* de piscium cerebro et medulla spinali. Hal. 1813. *J. F. J. Kosse* de pteropodum structura et novo ipsius genere. Hal. 1813. *S. F. Lue* de pleurobranchea, novo molluscorum genere. Hal. 1813. *H. F. Schalck* de ascidiarum structura. Hal. 1814. *B. J. Feiden* de halyotidum structura. Hal. 1814.

[¶] *L. Oken's* und *D. G. Kieser's* Beyträge zur vergleichenden Zoologie, Anatomie u. Physiologie. H. 1, 2. Bamb. 1806, 1807. 8.

[**] Diss. de systematis nervosi formatione per varias animalium classes. Erl. 1807. 8.

[††] Memorie della soc. Ital. delle scienze, Vol. XI.

[‡‡] Versuch einer vergleichenden Anatomie des Auges und der Thränen-Organe. Leipzig, 1810. 8.

[§§] Anatomie des Fischherzens. Landsh. 1809. 4.

[‖‖] Systematische Darstellung der durch die neuere Chemie in der Heilkunde bewirkten Veränderungen und Verbesserungen. Hof, 1805. 8.

[¶¶] Versuch einer physischen Darstellung der Lebenskräfte organisirter Körper. Nachträge und Zusätze zu beyden Bänden der ersten Ausgabe. Jena, 1805. 8.

[***] Neue Aufschlüsse, über die Natur und Heilung des Scharlachfiebers. Halle, 1810. 8.

The constituents of human blood were subjected to a new analysis by *J. Berzelius* (Afhandlingar i Fysik, D. 1.), who shewed, that it contained alkalized, and not phosphated iron. Nay, very lately, *W. T. Brande*[†] has considered the colour of the blood to be totally independent of iron, as there is as much iron in the colourless, as in the coloured part of that fluid, and there is much less iron in the blood than was formerly supposed. But neither the actual quantity found, nor the kind of blood employed in these researches, is stated. *L. Schnaubert*[‡] and *J. Bostock*[§] almost at the same time stated, that the blood contained no gelatine; the former adopted in its place albumen, kept fluid by the soda, and the latter mucus. *Berzelius* confirmed the absence of gelatine, and considered the colouring matter as a variety of albumen. The influence of electricity on the blood was accurately observed by *Schäbler.*[‖] Positive electricity prevents its coagulation, and promotes its evaporation and decomposition.

The secreted fluids have been again analyzed by *J. Berzelius*[¶] and *J. Bostock.*[**] The former, particularly, gave the composition of the marrow and of the sebacic acid (Gehlen's Journ. B. 2. p. 275—287.), as well as the constituents of the bones (B. 3. § 1.). Upon the analysis of these, we have, in Germany, a particular work.[††] There also appeared from *Fourcroy* and

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[*] *D. H. Grindel* in Hufeland's Journal. B. 32, St. 1.

[†] Philos. Transac. for 1812. Vol. I. und in Edinb. Review, Oct. 1812. N. XLIII. p. 178.

[‡] Trommsdorff's Journal der Pharmacie, B. 12. St. 2.

[§] Medic. Chirurg. Abh. der Gesellsch. in London, Berl. 1811. 8.

[‖] Diss. de influxu electricitatis in sanguinem. Lub. 1810. Schweigger's Journal. B. 3. S 292.

[¶] Afhandl. i Fysik, D. 1. General view of the composition of animal fluids, from Medico-chirurgical Transact. Vol. III. Ueberblic über die Zusammensetzung thierischer Flüssigkeiten, übers. von Schweigger. Nurnb. 1814. 8.

[**] Nicholson's Journ. Vol. II. p. 244. Vol. III. p. 140.

[††] *Ch. T. Schreger* osteochemiae specimen. Lips. 1811. 4.

Vauquelin an examination of cow's milk, and of the colouring constituent of bile and urine, the latter of which also, as extracted from flesh by nitric acid, was represented as a peculiar acid.[*] *Thenard* examined the sweat and the acids of milk and urine;[†] and *J. F. John* several animal matters, and, besides others, the brain, to shew that it contained no phosphorus.[‡]

Microscopical observations, which have been almost neglected since Malpighi's time, were renewed. *Ant. Barber* described more exactly the form of the medullary matter of the brain and nerves. It consists of very fine globules, arranged in fibres, with larger globules interposed.[§] The fibrous structure of the spinal marrow was confirmed by *Villars* and *G. G. T. Keuffel.*[‖] The brothers *Wenzel* also taught, that the brain consisted of globules, and that these are larger in man than in the mammalia.[¶] The cellular structure was also apparent almost everywhere after the brain was dried (p. 36, 37). It was farther proved, that the grey substance in the corpora striata and thalami nerv. opt. was not connected with the cortical substance (p. 68, 69). In the choroid plexus, where it runs behind the thalami, they observed a knotty substance, which consists of small, probably lymphatic grains (p. 94, 95). *F. v. P. Gruithuisen* made some interesting observations on the globules of the chyle, and of pus, which led to the distinction of the latter from mucus.[**]

The theory of galvanism, formerly applied to physiology, opened entirely new views regarding it. Gradually, it became more evident, that the different oxidability of the layers, of which the solids of the living body consist, developes an imponderable matter, which, conducted through the nerves, is consumed in the secretory organs, and by the functions of the muscles. The undeniable galvanic process in the body of the torpedo and electric eel,[††] the remarkable co-operation, though without connection, of the subsidiary nerves, with the principal nerves in the organs of the two principal senses,[‡‡] the evident occurrence of a different cortical matter in most of the secretory organs, but especially the observation of *Wollaston*, confirmed by Guyton Morveau, that the constituents of a solution of muriate of soda, exposed to the action of the negative pole of the voltaic pile, pass through a sow's bladder (Schweigger's Journ. B. 2. § 1.); also the production of oxygen in the blood, although the oxygen of the atmosphere cannot penetrate into the blood-vessels of the lungs, through the entire parietes of the air-cells.* Lastly, the impregnation of the hermaphrodite molluscae, whose organs of generation only lie upon each other, without material communication.† All these, and many other phenomena, which were before explained by animal electricity, seem more and more to put it out of doubt, that most, if not all the functions of life, are to be considered as galvanic processes; in regard to which, the observations of *Leop. Reinhold* (Reil's Archiv. B. 8. § 305.), and in part those of *Thom. Buntzen*,‡ and several other physiologists to be afterwards named, deserve to be read.

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[*] Mém. de l'Instit. Nation. Vol. VI. Gehlen's Journ. B. 2. S. 243, 615.

[†] Annal. de Chimie, Tom. LIX. p. 262. Gehlen, B. 2. S. 599.

[‡] Schweigger's neues Journal, B. 4. S. 165.

[§] Osservazioni microscopiche sul cervello. Napol. 1807. 8. Reil's Archiv. B. 10. S. 459.

[‖] Diss. de medulla spinali. Hal. 1810.

[¶] De penitiore structura cerebri, p. 29. Tubing. 1812. fol.

[**] Neue Untersuchungen über den Unterschied zwischen Eiter und Schleim. München, 1809. 8. Salzb. med. Zeit. 1813. B. 2. S. 73.

[††] *Volta* und *Configliacchi* in annali di chimia, Vol. XXII. p. 223. Humboldt in Gilb. Ann. B. 22. S. 1. f.

[‡‡] Brandis Pathol. S. 260. Sprengel Instit. Med. II. 317.

By this assumption of the imponderable substances, as the real agents of nature in organic bodies, by the correction of the ideas of life and organization, by the more elevated point from which it teaches us to consider antagonism (Gegensätze) in nature, and thereby put an end to the old controversy between materialists and idealists, the new German philosophy of nature (Naturphilosophie) conferred permanent benefit even upon the theory of medicine. The excrescences of this new doctrine, the mystic obscurity with which some of its adherents spoke of God and the invisible world, the extravagant, and therefore absurd, desire of instituting comparisons between things perfectly dissimilar, and, besides others, of having a constant reference to the dimensions of the geometrician; hence the introduction of astronomy into physiology; the absurdity of reading clearly and distinctly in the stars, what is here concealed in the obscurity of earthly substance, and especially the barbarous language, full of foreign, unintelligible expressions; were not at all calculated to acquire to the new doctrine many converts among sober and intelligent men. But whoever is able to separate the heavy corn from the chaff, will find in this system many important truths, and new views of subjects which are otherwise inexplicable.

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* Allen und Pepys in Schweigger's Journ. B. 1. S 182.

† *Meckel's* Beyträge zur vergl. Anat. Heft 1. S. 33.

‡ Beytr. zu einer künftigen Physiologie. Kopenhagen, 1805 8.

In speaking of this new philosophy, we may cite *F. W. J. Schelling's* various essays in the Medical Journals, and *K. F. Schelling's* treatise upon life, * as the original publications. *K. Oken* ranks immediately next to these authors in genius, acuteness, and wit. If we overlook his offensive desire of saying striking things, none of the new philosophers surpass him in richness of conception, in happy combinations, and even in propriety of language. We need only refer to two of his works. † The physiology of *J. Görres* ‡ is merely a poetical fiction, such as those of the fathers of the Greek philosophy, Heraclitus and Empedocles. Many additions to the new philosophy, many peculiar views, but very arbitrary, and advanced with great pretensions, are to be found in some of *J. P. B. Troxler's* writings. § The rhapsody of others || approaches to nonsense. As *Oken* recommended universally experience, so *J. J. Wagner* recommended the empirical method, as the only way in which medicine could be improved, ¶ and opposed, though more in appearance than in reality, Schelling's method, for everywhere the spirit of this philosophy is predominant. Equally insincere, more personal than real, was the opposition of *F. v. P. Gruithuisen.*** *G. H. Schubert's* writings †† are important, and distinguished by the number of observations, and their happy application, but without subjecting the facts to severe criticism. *W. A. Stütz* exposed the principal doctrines of the new school in a respectable manner, and tolerably free from its errors, and published contributions towards a future physiology of the organization of this world. ‡‡ *J. B. Wilbrand* §§ collected a great store of facts from the whole organic creation, with rather too limited a view, as having only a reference to involution and evolution. Not free from partiality, in considering secretion as an inherent activity of what is organized, and action generally as motion, an

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* Abhandlung über das Leben. Landshut, 1806. 8.

† Abriss des Systems der Biologie. Gött. 1805. 8. Lehrbuch der Naturphilosophie. Th. 1—3. Jena, 1809—1811. 8.

‡ Exposition der Physiologie. Coblenz, 1805. 8.

§ Grundriss der Theorie der Medicin. Wien, 1805. 8.

|| Blicken in das Wesen des Menschen. Aarau, 1812. 8.

¶ Von der Philosophie und der Medicin. Bamberg, 1805. 8.

** Organozoonomie. München, 1811. 8. Anthropologie. München, 1810. 8. und seine Empfehlung der Aristotelischen Methode in der Medicin, in Salzb. med. Zeit. 1812. B. 2. S. 113. f.

†† Ahndungen einer allgemeinen Geschichte des Lebens. B. 1, 2. Leipzig, 1806, 1807. 8. Ansichten von der Nachtseite der Naturwissenschaft. Dresden, 1808. 8.

‡‡ Schriften, physiologischen und medicinischen Inhalts. Berl. 1805. 8.

§§ Darstellung der gesammten Organisation. B. 1, 2. Giessen, 1809, 1810. 8.

anonymous writer produced rather a psychical than a physical system.[*] *Siegm. Wolf* applied the inherent *dualism* of nature to every phenomenon of organic life.[†] Also *K. F Nicolai,*[‡] *F. H. v. Stransky v. Stranka v. Greiffenfels,*[§] and *W. Knoblauch.*[‖] Several acute views are peculiar to the last of these; for example, that every body, when it begins to act, exercises functions the opposite of those inherent and predominant in it; for external agents limit especially the predominant factor of the inherent power, hence the other factors can act more easily. Thus, heavy bodies act at first by expansion—The applications of this principle to all parts of science are valuable.

As less able, rather prejudiced adherents than champions, among the enthusiasts for the new doctrines, may be enumerated *G. E. Vend,*[¶] *F. J. Schelver,*[**] *C. F. Kilian,*[††] *Joh. Spindler,*[‡‡] *A. M. Wallenberg,*[§§] *Joh. Löw,*[‖‖] *F. P. Cassel,*[¶¶] *H. Göden,*[***] *K. Enders,*[†††] *M. Gaitner,*[‡‡‡] *W. Butte,*[§§§] and besides others, not worthy of notice, even *A. F. Marcus,* in several publications to be hereafter noticed. Whoever has a relish for a ring of changes about dimensions and powers, for comparison between the universe and the microcosm, for the mystical doctrine of signs, and for a high sounding unintelligible jargon, will find ample gratification in the works referred to.

These objectionable excrescences and absurd errors excited the opposition of several thinking men, who, partly like *H. F. Link,* endeavoured to shake the foundations of the new philosophy, but afterwards could not refuse to its leading tenets their assent.[*] The abuses of the new doctrine were admirably criticised by *P. K. Hartmann*,[†] and *W. Liebsch*,[‡] and *J. A. Schaffroth*.[§] But *A. F. Hecker*[‖] and an anonymous critic[¶] rejected, along with the bad, what was obviously good and valuable in the new doctrines.

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[*] Versuch über die organische Natur. Wien, 1806. 8.

[†] Die Natur einwirkender Potenzen. Mannh. 1806. 8.

[‡] Diss. de naturae externae in corpus humanum actione. Vitteb. 1805. 4.

[§] Beleuchtungen physiologischer und psychologischer Gegenstände. Th. 1. Bamberg, 1805. 8.

[‖] Diss. phænomenorum corporis ægroti expositio. Lips. 1810. 4.

[¶] Diss. de processu organico. Virceb. 1807. 8. Ueber das natürliche und göttliche Princip. des Organismus. Würzb. 1809. 8. Die elliptische Blutbahn. Wurzb. 1809. 8.

[**] Philosophie der Medicin. Frkf. am M. 1809. 8. Journal der Naturwissenschaft und Medicin. St. 1, 2. Das. 1810. 8.

[††] Medicin. Studien. Giessen, 1809. 8.

[‡‡] Allgem. Nosologie und Therapie als Wissenschaft. Frkf. a. M. 1810. 8.

[§§] De rhythmi in morbis epiphania. Heidelb. 1809. 8.

[‖‖] Uber die sympathetische Wirkung der Dinge. Landsh. 1809. 8.

[¶¶] Skizzen für Zoonomie. Kölln, 1808. 8.

[***] Ein Fragment zum System der Krankheiten des Menschen. Berlin, 1808. 8.

[†††] Beytr. zur Physiologie und Pathologie. Ulm, 1812. 8.

[‡‡‡] Physiolopie des Menschen. Jena, 1811. 8.

[§§§] Grundlinien der Arithmetik des menschlichen Lebens. Landsh. 1811. 8.

The theory of excitement, which had previously prevailed in the schools of the German physicians, now had very few supporters; among whom, however, we may reckon *C. F. Oberreich*,[**] and, in some measure also, *F. G. Wezel*.[††] In the beginning of this period, *Andr. Röschlaub*, the leader of the school of excitement in Germany, abjured his earlier errors, and gave himself up to visionary speculation.[‡‡] *F. W. v. Hoven*[§§] preached up empiricism, to which the transition from being an adherent of the doctrine of excitability, was very easy. A complete refutation of Brown's doctrines was published in Italy by *F. Canaveri*.[‖‖]

It thus happened, that by far the greatest number of the physiological systems of this period were indebted partly, or altogether, to the new philosophy for their organic connection; their higher principles and better views. Except *G. R. Treviranus's* Biologie,[¶¶] which is written with true Aristotelian knowledge and judgment, *Ign. Döllinger's* text-book of physiology[***] deserves the precedence among those which Germany has produced during this period. The distinction between sensorial and vegetative life, chiefly derived from Johnstone's and Bichât's opinions concerning the nature of the nerves, and followed up by Reil,[*] was adopted as the basis of a fitter arrangement of the principal functions, and for many other useful purposes. The productions of *George Prochaska*,[†] *P. F. Walther*,[‡] *K. Sprengel*,[§] *K. F. Burdach*,[‖] *Ernst Bartel*,[¶] also obtained the approbation of the learned. The attempts of *F. L. Augustin*,[**] *Matth. Petrovich*,[††] *Jos. Schallgruber*,[‡‡] *M. J. Lenhoszel*,[§§] were much less successful. Among the Anthropologies published in Germany, the most esteemed are those of *W. Liebsch*,[‖‖] *C. F. L. Wildberg*,[¶¶] *H. B. Weber*,[***] and *K. F. Diruf*.[†††] The essays of *J. C. A. Heinroth*,[‡‡‡] *G. H. Masius*,[§§§] and *G. W. Voigt*,[‖‖‖] are less valued.

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[*] Ueber Naturphilosophie, von *H. F. Link*. Rost. 1806. 8. Natur und Philosophie. Linz, 1811. 8. Ideen zu einer philos. Naturkunde. Breslau, 1814. 8.

[†] Salzb. Med Zeit. 1805. B. 2. S. 19.

[‡] Babel in der neuen Heilkunde, H. 1. Gött. 1805. 8.

[§] Betrachtungen über den Nachtheil voreiliger Anwendungen der neuesten Naturphilosophie auf die Medicin. Freyb. 1809. 8.

[‖] In den Annalen der gesammten Medicin, B. 1—3.

[¶] Untersuchung der Frage: Was hat wohl die Naturphilosophie bis jetzt der Medicin genützt. Leipz. 1811. 4.

[**] Kritisches Journal der Arzneykunst zum Behuf der Erregungstheorie. St. 1, 2. Riga, 1805, 1806. 8.

[††] Briefe über *Brown's* System der Heilkunde. Leipz. 1806. 8.

[‡‡] Magazin zur Vervollkommnung der Medizin. B. 9. *Hufeland's* Journ. B. 52. St. 1.

[§§] Grundzätze der Heilkunde. Rothenburg ob der Tauber, 1807. 8.

[‖‖] Analyse et réfutation des élémens de médecine du *Dr Brown*. Turin, 1805. 8.

[¶¶] B. 3, 4. Gött. 1805, 1814.

[***] Grundriss der Naturlehre des menschlichen Organismus. Bamberg, 1805. 8.

Among the physiological writers of France during this period, *K. L. Dumas*, *P. J. Barthez*, and *A. Richerand*, are the most important. The first,[¶¶¶] by distinguishing the physical, organic, and vital powers, and by adopting Bichât's ideas of the differences of the various systems, introduced better principles, and explained the nature of the secretions better than had been done before him. But Dumas was indebted for his arrangement, and his idea of a power of fixed position, to that excellent master of his art, Barthez, of whose work[****] a new edition was published. A peculiar combination of chemical with dynamic principles, resting upon very multifarious hidden powers, occurs in Richerand's fourth edition.[††††]

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[*] Archiv, B. 7. S. 189.

[†] Institutiones physiologiae humanae. Vol. I. II. Vienn. 1805, 1806.

[‡] Physiologie des Menschen. B. 1, 2. Landshut, 1807, 1808. 8.

[§] Institutiones Physiologicae. Vol. I. II. Amst. 1809, 1810. 8.

[‖] Die Physiologie. Leipz. 1810. 8.

[¶] Physiologie der menschl. Lebensthätigkeit. Freyb. 1809. 8.

[**] Lehrbuch der Physiologie des Menschen. Th. I. Berl. 1809. 8.

[††] Physiologia. Pesth. 1807.

[‡‡] Entwurf einer Physiologie des Menschen. Grätz, 1811. 8.

[§§] Introd. in methodologiam physiologiae c. h. Pesth. 1808.

[‖‖] Grundriss der Anthropologie. Th. 1, 2. Gött. 1806, 1808. 8.

[¶¶] Handb. d. physischen Selbstkenntniss fur Jünglinge gebildeter Stände. Gött. 1807. 8.

[***] Anthropolog. Versuche zur Beforderung einer grundlichen und umfassenden Menschenkunde. Heidelb. 1810. 8.

[†††] Grundlinien der allgemeinen Naturlehre des Menschen. Erlang. 1810. 8.

[‡‡‡] Grundzüge der Naturlehre des menschlichen Organismus. Leipz. 1807. 8.

[§§§] Grundriss anthropolog. Vorlesungen für Aerzte und Nichtärzte. Altona, 1812. 8.

[‖‖‖] Versuch einer physiolog. physischen Darstellung des Menschen. Nurnb. 1813. 8.

[¶¶¶] Principes de Physiologie. Tom. I.—IV. ed. 2. Paris, 1806, 1807. 8.

[****] Nouveaux élémens de la science de l'homme. Tom. I. II. Paris, 1806.

[††††] Nouveaux élémens de physiologie. Tom. I. II. Paris, 1807. 8.

The Italians can boast of having produced three of the principal physiological works of this period by *Jac. Tommasini*,[*] one of the most acute and best informed authors, by *Jos. Jacopi*,[†] and by *Stef. Gallini.*[‡]

We have become acquainted with two British publications belonging to this department; one popular,[§] the other idealistic.[||]

Of the particular subjects of physiology, the structure of the brain and nerves, and the functions of both, engaged the attention of the principal German naturalists. The old method of examining the brain by horizontal and perpendicular sections, was rejected on the one side by *F. J. Gall*;[¶] and, on the other, by *J. C. Reil.*[**] The former substituted for the common method what he called the unfolding of the brain, and also shewed, most accurately, the origin of the primitive nerves in the corpora quadrigemina, the spinal marrow and the ganglia, and attributed to the cortical substance a peculiar importance in the nourishment of the nerves. J. C. Reil introduced his inquiries with some unworthy reflections against his predecessors, and with a degree of pretension which did not at all correspond with the excessive minuteness and useless naming of every convolution or fold. In other respects, he considered the brain as a galvanic apparatus, because the cortical and medullary substances do not pass into each other, but are easily separated. These innovations were opposed by *S. Th. Sömmerring*, who defended the old mode of dissection.[††] The work of the brothers *Wenzel* upon the brain[‡‡] is excellent and masterly, particularly in regard to the comparisons with the animal structure, and the history of the developement of the brain. The glands, as they are called, of Pacchioni, are considered as a morbid state, and their seat is determined to be in the pia mater. There are also excellent observations upon the decussations of the optic nerves, the structure of the pineal gland, and its office to secrete a mass, which is probably fluid during life, and concretes after death into sabulous or calculous grains, which never occur in animals; upon the medullary striæ and grey bands belonging to the acoustic nerve, in the fifth ventricle; upon the real purpose of the pituitary glands for secretion; upon their connection with the pineal gland, and their decrease in advanced life; as well as upon the different size and weight of the brain, at various ages, and in different animals. Works upon the brain were also published by *K. F. Burdach*, * *C. G. Carus*, † and *J. Döllinger.* ‡

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[*] Lezioni critiche di fisiologia e patologia. Vol. I.—IV. Parma, 1805. 8.

[†] Elementi di fisiologia e anatomia comparativa. Vol. I.—III. Milano, 1808, 9. 8.

[‡] Nuovi elementi della fisica del corpo umano. Vol. I. II. Pad. 1808. 8.

[§] *J. Jarrold*, Anthropologia, or Dissertations on Man. London. 1808. 4.

[||] *J. R. Park*, Inquiry into the Laws of Animal Life. Cambridge, 1813. 8.

[¶] Untersuchungen über die Anatomie des Nervensystems überhaupt und des Gehirns insbesondere. Paris, 1809. 8. Anatomie und Physiologie des Nervensystems im Allgemeinen, und des Gehirns insbesondere. Paris, 1810, wozu ein Atlas mit 17 Kupferplatten. Fol.

[**] Archiv, B. 8—10.

[††] Academicae annotationes de cerebri administrationibus anatomicis. Monach. 1810.

[‡‡] Jos. et Car. Wenzel de penitiore structura cerebri hominis et brutorum. Tubing. 1812. fol.

The pointing out of particular regions of the brain, especially of its external convolutions, as the seat of the various faculties, talents, inclinations, even of virtues and vices, the presence of which would necessarily be indicated by the peculiar form of the bones of the cranium,—this quite unphilosophical idea, which got the name of *Gall's* Craniology, or Cranioscopy, occupied, at the beginning of this period, many capable and incapable pens in Germany and France. *J. G. Walter's* paper against Gall § was disgraceful. *C. H. E. Bischoff's* treatise ‖ was insignificant, or at least did not contain any particular criticism. Stronger objections were made by *A. E. Kessler*, ¶ and particularly by *J. F. Ackermann.* ** *J. W. F. Himly*, on the contrary, attempted in vain to make this doctrine coincide with reason and philosophy; †† while *E. Bartels* ‡‡ and an anonymous writer §§ supported it. In France, *J. L. Moreau de la Sarthe* made some good

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[*] Beyträge zur nähern Kenntniss des Gehirns. Th. 1, 2. Leipz. 1806. 8.

[†] Neue Darstellung des Nervensystems, insbesondere des Gehirns. Leipz. 1814. 4.

[‡] Beyträge zur Entwickelungsgeschichte des menschlichen Gehirns. Frankf. 1814. fol.

[§] Etwas über Hrn. Doct. Gall's Hirnschädellehre. Berl. 1805. 8.

[‖] Darstellung der Gall'schen Gehirn-und Schädellehre, nebst den Bemerkungen von *C. W. Hufeland.* Berl. 1805. 8.

[¶] Prüfung des Gall'schen Systems der Hirn-und Schädellehre. Jena, 1805. 8.

[**] Die Gall'sche Hirn-Schädel-u. Organenlehre. Heidelb. 1806. 8.

[††] Erörterung des Gall'schen Versuchs einer fortgesetzten Gehirnlehre. Halle, 1806. 8.

[‡‡] Anthropologische Bemerkungen über das Gehirn und den Schädel des Menschen. Berl. 1806. 8.

[§§] Beantwortung der Ackermann'schen Beurtheilung und Widerlegung der Gall'schen Hirn-Schädel-und Organenlehre. Halle, 1806, 8.

psychological objections against it,* but *J. B. Demangeon* † appeared as an apostle of a doctrine which, for seven years past, has been almost forgotten.

The continuance of sensibility in heads, after being cut off, still occupied some learned men. *F. v. P. Gruithuisen* ascertained, by experiments upon animals, that the farther from the head the neck was cut through, the more sensibility remained. ‡ *Klein*, in Stuttgardt, § did not find any marks of remaining sensibility in the head of a decapitated criminal. Extremely accurate, and full of instructive inferences, are the experiments of *C. Gallois*; ‖ by means of which he proved, that the moving power proceeds from the spinal marrow, and that the power which regulates voluntary motion originates in the brain. *G. G. T. Keuffel* again examined the importance and the internal structure of the spinal marrow. ¶ *S. T. Sömmerring* attempted to prove the activity of the nerves in producing and conveying a subtle volatile (imponderable) matter, which, reabsorbed by the lymphatics, even serves as nourishment to the body. ** In the same manner, *P. A. Prost* had previously imagined, that he had discovered the principle of sensibility to reside in the humours. †† *J. F. Ackermann* endeavoured, quite lately, to re-establish the ancient Aristotelian opinion of the origin of the nerves from the heart. ‡‡

These researches concerning the nerves and their functions lead us naturally to Somnambulism and the phenomenon of Clairvoyance, under those circumstances where the activity of the brain is interrupted, and that of the ganglions increased, and where the organic sense, produced by the latter, takes the place of sensibility. This phenomenon, in former times looked upon with superstition, was, in this period, considered in a more correct point of view, and an explanation suitable to the new physiological discoveries attempted. *K. F. Schelling* was the first who, after the experiments instituted by J. A. Schmidt in Vienna, tried to explain these phenomena from the laws of general sympathy.[*] But even here appeared the love of the miraculous, mistaking the limits between the true and the false. For in the effects of what is called vital (animal) magnetism, the power of the will is regarded as absolutely necessary. By one of the most celebrated advocates of this doctrine, *A. M. J. Chastenet de Puységur*, there appeared a valuable work,[†] in which all the known facts are collected. The most ridiculous abuse of the doctrine of general sympathy was made by *Roucher de Ratte*, in order to discover the thoughts of others.[‡] In Germany, Rhabdomancy, or the subterraneous Electrometry, or what *J. W. Ritter* denominates *Siderismus*,[§] was deduced from the same principles as somnambulism, after *Francis Campetti*, the pretended feeler of metals, had, in August and September 1807, performed his tricks before the academy at Munich. According to *C. F. Nasse's* experiments,[‖] the magnetic sleep-walkers have not only the most striking susceptibility for metals, but also for electricity. *L. W. Gilbert*, when he opposed rhabdomancy in general, could not deny these phenomena.[¶] *A. Wienholt*, on the contrary, in his lectures, protected not only the rhabdomancy, but endeavoured to explain it, as well as the phenomena of vital magnetism, by the sensible atmosphere of the nerves.[**] *Fr. Hufeland* assumed, as the first principle of vital magnetism, the general reaction of bodies;[††] and his brother acknowledged likewise, that the magnetic phenomena might be explained from a communication of a general imponderable matter.[‡‡] *K. A. F. Kluge*[§§] gave a very careful, but not sufficiently critical, description of the phenomena of magnetism. *A. F. Kessler*,[‖‖] and *E. Bartels*, endeavoured to explain Somnambulism and *Clairvoyance*, and once more to support rhabdomancy,[*] by supposing the activity of the brain to be transferred to the ganglions; and *John Spindler* tried to explain all kinds of superstition, even P. Gassner's devilries, by means of vital magnetism, in a manner which certainly he himself cannot have understood.[†] How much encouragement was afforded to superstition and enthusiasm by the doctrine of animal magnetism, is particularly evident from the example of *P. F. Walther*,[‡] who ventured to deduce the effects of medicines from the belief of the physician. *Herzog* subjected these explanations to an examination, by which he attempted to prove the immaterial nature of the magnetic agent, and to disprove what is called the nervous atmosphere of the whole body.[§] *K. Wolfart* began a journal (Asklepeion), in which he collected theories and observations concerning vital magnetism. Among the latter, there are many [||] ill-told stories, which, by impartial judges, were found to be quite different; to which may be added those by *A. W. Müller*,[¶] and by *F. K. v. Strombeck*.[**] But *Desessarts* [††] related faithfully and impartially a history of somnambulism, which arose without any evident cause, and, in like manner, *Comstock* gave the history of a curious nervous disease, the symptoms of which were near akin to the phenomena of magnetic somnambulism.[‡‡] In Berlin, there was formed a committee for the examination of vital magnetism, and of late, *Wolfart* travelled to visit the founder of this doctrine, of whom he published some manuscripts, which contain the most strange explanations concerning the essence of bodies;[§§] and among others, a renewal of the obsolete theory concerning the small-pox, arising from bad humours in the navel-string. The Prussian government, in order to obviate the abuses of magnetising, restricted this method of cure to the privileged physicians, and gave the superintendence of it to the state physicians.[*] *C. C. Matthäi* published some excellent observations about the influence of magnetism upon the powers of the mind.[†] *Deleuze* edited a critical history of it,[‡] in which many practical observations of his own are recorded with great predilection for this doctrine. At last *John Stieglitz* appeared as one of its most learned and acute opponents;[§] and though he justly criticised the hasty explanations which threatened to become predominant in modern times, yet he rejected many indisputable facts, because he had not been an eyewitness of them himself. He seems to me to be particularly in the wrong when he represents the effluvia of the person as the source of the influence of the magnetiser, and is not willing to admit of the transition of any matter whatever, out of the one body into the other, without assimilation.

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* Moniteur Univ. No. 164, 173, 179.

† Physiologie intellectuelle. Paris, 1806.

‡ Ueber die Existenz der Empfindung in den Köpfen und Rümpfen der Geköpften. Augsburg, 1808. 8.

§ Anhang zu *Elvert* über ärztliche Untersuchung des Gemüthszustandes. Stuttg. 1810. 8.

‖ Experiences sur le principe de la vie. Paris, 1812. 8.

¶ Diss. de medulla spinali. Hal. 1810. 8.

** Ueber den Saft, welcher aus den Nerven wieder eingesaugt wird. Landsh. 1811. 8.

†† Essai physiologique sur la sensibilité. Paris, 1806. 8.

‡‡ De nervei systematis primordiis. Mannh. 1813.

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[*] Jahrb. der Medic. B. 2. H. 1, 2.

[†] Du magnétisme animal. Paris, 1807. 8.

[‡] Mélanges de Physiologie, de Physique, et de Chemie. Paris, 1805. 8.

[§] Beytr. zur nähern Kenntniss des Galvanismus. Tübing. 1805. 8. *K. Amoretti's* Unters. über die Rhabdomantie, herausg. v. *J. W. Ritter*. Berl. 1809. 8.

[‖] *Reil's* Arch. B. 9. S. 237.

[¶] Kritische Aufsätze über die in München wieder erneuerten Versuche mit Schwefelkies-Pendeln und Wünschelruthen. Halle, 1808. 8.

[**] Heilkraft des thierischen Magnetismus. aus eigenen Beobachtungen. 3ter Th., von Scherf herausg. Lemgo, 1805, 1806. 8.

[††] Ueber Sympathie. Weimar, 1811. 8.

[‡‡] *Hufeland's* Journal, B. 29. St. 2.

[§§] Versuch einer Darstellung des animalischen Magnetismus als Heilmittel. Berl. 1811. 8.

[‖‖] *Himly's* Ophthalmol. Biblioth. B. 3. St. 3.

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[*] Grundzüge einer Physiologie und Physik des Animal. Magnetismus. Frkf. a. Main, 1812. 8.

[†] Ueber das Princip des Menschen-Magnetismus. Nürnb. 1811. 8.

[‡] *Marcus* Ephemeriden der Heilk. B. 4. St. 3.

[§] Neuestes Journ. der Erf. B. 2. S. 303. fol.

[||] Uber das Magnetiseren der Pflanzen, im neuen Asklep. H. 2. S. 141.

[¶] *Reil's* Archiv, B. 10.

[**] Geschichte eines allein durch die Natur hervorgebrachten animalischen Magnetismus. Braunschw. 1813.

[††] Journ. de Sedillot, Tom. XL.

[‡‡] Lond. Medic. and Phys. Journ. 1808. Sept.

[§§] Mesmerismus, oder System der Wechselwirkung u. s. f. Berl. 1814. 8.

We leave this subject in order to mention the other discoveries in physiology during this period. *S. C. Lucä* examined the nerves peculiar to the arteries, and distinguished them from those of the cellular substance; he demonstrated that the smaller branches of arteries, especially in the head, are destitute of nerves.[‖] The history of the great intercostal nerve was subjected to a new examination by *Ant. Portal.*[¶]

The manner in which the organs of sense act, was rather rendered more obscure than explained, in the language of the new philosophy, by *A. F. Kessler.*[**] More valuable was the before-mentioned observation of *Brandis*, that, in the organs of the upper senses, there are two kinds of nerves which act with polarity upon each other, and that, in the sphere of the one, the negative form of water (hydrogen) predominates, and the positive (oxygen) in that of the other.[††] *J. G. Steinbuch* delivered some instructive views, though partly material,[‡‡] and assumed in the retina of the eye a specific production of light, in order to explain the phosphorescent appearance of the eye.[§§]

The internal structure of the muscles was examined by

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[*] *Hufeland's* Journ. B. 35. St. 1.

[†] *Horn's* Archiv, 1811. März.

[‡] Histoire critique du magnetisme animal. Paris, 1813. Vol. I. II.

[§] Uber den thierischen Magnetismus. Hannov. 1814. 8.

[‖] Observat. anatom. circa nervos arterias adeuntes. Frcf. ad Moen. 1810. 4.

[¶] Mém. de l'Inst. Nat. Vol. IV.

[**] Ueber die Natur der Sinne. Jena, 1805. 8.

[††] Brandis Pathol. S. 260.

[‡‡] Beytrag zur Physiologie der Sinne. Nürnb. 1811. 8.

[§§] *Hufeland's* Journ. B. 36. St. 1.

Bonsdorf.[*] *A. Carlisle* investigated the actual change of muscular fibres when in motion;[†] and *John Barclay* delivered a theory of the voluntary motions, which is almost useless, owing to his unintelligible names of the muscles.[‡]

No function of the body was more accurately investigated in all points of view, and in all its relations, than respiration. *Sömmerring* and *Reisseisen* examined at the same time the lungs, their cells, and the termination of the vessels, and taught that the par vagum, and not the intercostal nerve, supplies the bronchial vessels.[§] For this last reason, and from experiments, *M. A. Caldani* concluded respiration to be voluntary.[‖] *Dupuytren's* experiments established the influence which the par vagum has upon the functions of the lungs, and upon the change of the colour of the blood. Even by alternate pressure upon the nerves, the red blood was darkened. Hence he concluded, that such animals die in a state of asphyxia; he also found *Bichât's* observations confirmed, that, after the division of the pulmonary nerve, life continues for a time.[¶] *Ducrotay de Blainville* extended these experiments to several classes of animals, and found, that in birds, after the division of both nerves, life not only continues for six or seven days, but that likewise the chemical properties of the blood suffer little change.[**] These experiments were rectified by *Dumas;* he shewed that the arterial blood became black in consequence of the disturbance of the function of the lungs, caused by the pain from dividing the nerves.[††] Similar conclusions were drawn from the experiments of *Provençal,*[‡‡] and of *A. G. F. Einert;*[§§] from the latter of which, it appeared that the change of venous into arterial blood continues to take place even after the division, provided the air still penetrate into the lungs. By the experiments of *C. Gallois* already mentioned, it was finally proved, that the impulse to the motion of the organs of respiration likewise proceeds from the spinal marrow, and that in animals, after their heads were cut off, respiration could be supplied by the blowing in of air. *P. H. Nysten* shewed, by experiments, to what changes the chemical properties of the expired air are subject in diseases. [*]

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[*] *A. J. Lille* diss. de intrinseca musculorum fabrica, und *A. R. Boucht* diss. de ruboris musculorum sede. Abo, 1806. 4.

[†] Philos. Transact. 1805, Vol. I.

[‡] The Muscular Motion of the Human Body. Lond. 1808. 8.

[§] Ueber die Structur, die Verrichtung und den Gebrauch der Lungen. Zwey Preisschriften. Berlin, 1808. 8.

[‖] Memorie dell' Accad. di Mant. Vol. I. p. 100. Memorie lette nell' Accad. di Padova, p. 130.

[¶] Nouveau bulletin des Scienc. Tom. I. No. 2. p. 28. Salzb. Med. Zeit. 1808. B. 1. S. 169. fol.

[**] Nouv. bullet. des Scienc. Tom. I. No. 12. p. 226. *Gehlen's* Journ. B. 7. S. 532.

[††] Moniteur, 1808. No. 319. *Gehlen's* Journ. B. 9. S. 744.

[‡‡] Journ. de Sedillot, Tom. XXXVII.

[§§] *Reil's* Archiv, B. 9. S. 407.

Comparisons with the phenomena in other classes of animals are nowhere more necessary than for the explanation of respiration. Hence the observations and experiments of *F. L. A. W. Sorg*, [†] and of *C. L. Nitzsche*, [‡] were very valuable, as explaining the difference of the changes which respiration produces in the lower classes of animals; hence likewise *F. v. P. Gruithuisen*, in his above-mentioned Organozoonomy, and *L. Oken*, in his Philosophy of Nature, justly believed direct respiration, without circulation, to consist in the gases passing immediately into the body, but that, in the higher classes of animals, and in man, in particular, the changes of the fluids in respiration are produced more by an internal activity. Hence it is necessary to limit the earlier assertion of *Humphrey Davy* and *J. Bostock*, [§] that, even in man, oxygen, and even nitrogen, are really consumed in respiration, and that the former is not employed only for the formation of carbonic acid gas. This opinion was, indeed, totally refuted by *W. Allen* and *W. H. Pepys*, [‖] who proved, that, in man, the blood never absorbs any nitrogen in respiration, and that the whole of the oxygen is employed for the formation of carbonic acid. *Humboldt*, *Provençal*, and *Configliacchi*, on the contrary, pointed out the immediate passage of the gases in fishes and the lower animals, and their deposition in the swimming-bladder of the former. [¶]

L. Oken examined also more carefully the respiration of the fœtus in utero, [**] and pointed out that the vessels of the navel-string are only subservient to the oxydation, not to the nourishment of the child. *Nasse* tried to prove that this oxydation is very imperfect, and that, therefore, an imperfectly oxydized blood is sufficient for the nourishment of the child. [*]

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[*] Recherches de Physiologie et de Chimie Pathologique. Paris, 1811. 8.

[†] Disquisitiones Physiologicae circa respirationem insectorum et vermium. Rudolst. 1805. 8.

[‡] Diss. de respiratione animalium. Witteb. 1808. 4. u. in *Reil's* Archiv, B. 10. S. 440.

[§] Versuch über das Athemholen. Aus dem Engl. von *A. F. Nolde*. Frf. 1809. 8.

[‖] *Harles's* Journ. B. 10. und *Schweigger's* Journ. B. 1. S. 182.

[¶] *Schweigger's* Journ. B. 1.

[**] *Siebold's* Lucina, B. 3. St. 3.

J. B. Wilbrand [†] published general views of respiration according to the new philosophy; *S. Mêhes*, [‡] a collection of the known facts according to *J. F. Ackermann's* Theory; and *E. Bartels*, [§] a critical history of this function.

The doctrine of the generation and growth of the embryo was subjected to accurate investigation, which was crowned with successful results. The idea that the embryo of the higher animals passed from its first origin, through the various stages observed in the lower animals, first hinted at by *Harvey* and *K. F. Wolf*, was beautifully explained by *L. Oken*, [‖] *J. F. Meckel*, [¶] and *F. Tiedemann*. [**] The use of the vesicula umbilicalis at the earlier period of the embryo, and the origin of the intestinal canal from it, were pointed out by *D. G. Kieser* [††] and *Oken*. [‡‡] The latter explained from this fact the production of umbilical ruptures. [§§] The diverticula of the intestinal canal, as they are called, were likewise explained in the same way by *J. F. Meckel* [‖‖] and by *J. B. Lucä*. [¶¶] The function of the thymus gland was by *Flor. Caldani* thought to consist in [***] the dilution and assimilation of the lymph and chyle; and for this purpose he endeavoured to shew a communication between this organ and the thoracic duct. The influence of the thymus gland, in preserving the imperfect state of oxydation in the blood, was explained by *J. F. Meckel* from its enlargement in deficient respiration. [†††] *A. W. Otto* illustrated these and other relations from the examination of monsters. [‡‡‡] His view of the production of monsters without heads or brains, in consequence of hydrocephalus, was not quite agreeable to the true history of the evolution of the human embryo. *J. C. Zimmer* made some interesting observations in dissecting monsters;[*] still he did not explain the malconformations, ascribed to the fault of the mother, so happily as *J. F. Meckel*, who regarded them as consequences of interrupted organization. *A. Wienholt* adopted a dynamic influence of the mother upon the child, and thought he was able to explain many monstrous births from mechanical principles.[†] *Vinc. Malacarne* explained admirably the origin of monsters without heads, and of the enlarged hydrocephalus; and, at the same time, refuted Gall's view of the unfolding of the brain.[‡]

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[*] *Reil's* Archiv, B. 10. S. 253.

[†] Ueber das Verhalten der Luft zur Organisation. Münster, 1807. 8.

[‡] De Respiratione Animalium Commentatio. Heidelb. 1808.

[§] Die Respiration. Berl. 1814. 4.

[‖] Die Zeugung. Bamb. 1805. 8.

[¶] Abhandl. aus der menschl. und vergleich. Anatomie. Halle, 1806. 8.

[**] Anatomie der kopflosen Missgeburten. Landsh. 1813. fol.

[††] Der Ursprung des Darmcanals aus der vesicula umbilicalis. Gött. 1810. 8.

[‡‡] Beytr. zur vergl. Zoonomie. H. 1. Bamb. 1806. 8.

[§§] Preisschrift über die Entstehung und Heilung der Nabelbrüche. Landsh. 1810. 8.

[‖‖] Beytr. zur vergl. u. menschl. Anat. H. 1. Handbuch der patholog. Anatomie. S. 560.

[¶¶] Anatom. Bemerkungen über die Diverticula am Darmcanal und über die Höhlen der Thymus. Nürnb. 1813. 4.

[***] Conghiettura sopra l'uso della glandola timo. Venez. 1808. 4.

[†††] Handb. der pathol. Anat. S. 489.

[‡‡‡] Monstrorum sex humanorum anat. et physiol. disquisitio. Frcf. 1811. 4.

The difference and similarity between the parts of generation in both sexes, was first demonstrated by *J. F. Ackermann*;[§] but with more precision, and more comprehensively, by *J. H. F. Autenrieth*,[||] *J. C. Rosenmüller*,[¶] *A. Meckel*, with reference to the formation of the intestines,[**] and by *K. F. Burdach*.[††] Similar comparisons, illustrated from the history of developement, were instituted by *L. Oken*, even with the bones of the cranium and the rest of the skeleton; and he imagined the thorax to be copied in the nasal-bones, and the extremities in the jaw-bones.[‡‡] How very useful comparative anatomy, and the history of the developement of the human embryo, are for explaining almost all congenital malconformations, was excellently demonstrated by *J. F. Meckel*.[§§] In this manner we were enabled to explain, among others, the hare lip, which baffled *Jos. Anna*.[||||] General illustrations of developement were given by *J. W. T. Zanders*,[¶¶] *J. Malfatti*, with application to pathology,[***] *S. C. Lucä*,[†††] and *A. Hanke*.[‡‡‡]

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[*] Physiol. Untersuchungen über Missgeburten. Rudolst. 1806. 8.

[†] Sieben Vorlesungen über die Entstehung der Missgeburten. Bremen, 1807. 8.

[‡] Oggetti più interessanti di ostetricia e d'istoria naturale. Pad. 1807. 4.

[§] Infantis androgyni historia et ichnographia. Jen. 1805. fol.

[||] *Reil's* Archiv, B. 7. S. 1.

[¶] Abh. der physic. medic. Societät zu Erlangen, B. 1.

[**] Diss. de genitalium et intestinorum analogia. Hal. 1810. 4.

[††] Anat. Untersuchungen. Leipz. 1814. 4.

[‡‡] Ueber die Bedeutung der Schädelknochen. Jen. 1807. 4

[§§] Handb. der Pathol. Anatomie. B. 1. Leipz. 1812. 8.

[||||] Beschreibung u. Abbild. eines Wolfsrachens. Rast. 1805. 8.

[¶¶] Beyträge zu einer Geschichte der Thiermetamorphose. Köln. 1807. 8.

[***] Entwurf einer Pathogenie aus der Evolution und Revolution des Lebens. Wien. 1809. 8.

[†††] Unters. über einige Gegenstände des Zeugungsgeschäfts. 12. Frkf. a. M. 1813.

[‡‡‡] Uber die Entwickelungs-Perioden des menschlichen Organismus. Nürnb. 1813. 8.

After *L. Calza's*[*] investigation of the two muscular layers of the uterus with intervening cellular substance, the function of the uterus was explained by *J. C. Reil* by polarity;[†] against which, some weighty objections were urged by *J. C. G. Jörg*,[‡] to whom we are also indebted for an excellent comparative representation of the organs of parturition in women and other animals.[§]

We conclude this review of the progress of physiology with enumerating the discoveries and corrections upon particular subjects. *Sir E. Home* examined more accurately the structure and functions of the spleen.[‖] He believes he has found that the drink passes directly from the stomach into the spleen. Upon the system of the vena portarum, *Conr. Hönlein* published an admirable work, on account of its illustrations derived from comparative anatomy.[¶] The lymphatic system has been investigated by *Stanis. Gilibert*,[**] the system of the skin by *Gautier*,[††] the capillary vessels by *G. Prochaska*,[‡‡] by whom also the permeability of the sides of the vessels has been adopted, in which *J. F. S. Posewitz* had before asserted, that there were pores actually visible.[§§] *H. C. A. Osthoff* explained the doctrine of nutrition and assimilation minutely and profoundly;[‖‖] and *Emmert* determined exactly the chemical relations of chyle.[¶¶] The use of the epiglottis was doubted by *Magendie*,[***] because he observed in dogs, from which it was removed, a complete closure of the glottis when they drank. But *A. C. Meyer*[†††] shewed very satisfactorily, that, in man, the epiglottis actually prevented the entrance of what was swallowed into the glottis, and also contributed to the formation of the voice.

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[*] *Reil's* Archiv, B. 7. S. 341.

[†] Daselbst, S. 394—501.

[‡] Neues Journ. der Erf. St. 19.

[§] Ueber das Gebär-Organ des Menschen und der Säugthiere. Leipz. 1808. fol.

[‖] *Nicholson's* Journ. Vol. XX. No. 90.; Vol. XXI. No. 92. *Reil's* Archiv, B. 9. S. 525.

[¶] Descriptio anatomica systematis venae portarum. Mogunt. 1808. fol.

[**] Essai sur le systeme lymphatique. Paris, 1805. 8.

[††] Recherches Anat. sur le système cutané. Paris, 1811. 4.

[‡‡] Bemerkungen über den Organismus des menschl. Körpers. Wien, 1810. 8.

[§§] Bestimmung des durch die Gefäss-und Nerven-Poren entweichenden flüchgen Stoffes. Giessen, 1805. 8.

[‖‖] Rhapsodieen aus der Lehre von der assimilativen und reproductiven Function des Organismus. Erl. 1806. 8.

[¶¶] *Reil's* Archiv, B. 8. S. 145. fol.

[***] Zwey Abh. über das Erbrechen und den Nutzen des Kehldeckels beym Verschlucken. Aus dem Franz. von Dittmar. Bremen, 1814. 8.

[†††] Salzb. Med. Zeit. 1814. B. 5. S. 181

That various, particularly metalline substances, and among these quicksilver, resist the process of assimilation, and pass directly into the blood, was proved by the experiments of *C. M. Zeller*,[*] who obtained metallic quicksilver from the blood of animals upon which he had rubbed it; and that quicksilver reappeared in the perspiration, during a mercurial treatment, was again observed.[†]

(To be continued.)

II.

An Experiment to ascertain the Effects produced on Sound Eyes, by the Application of the Discharge from Eyes affected with Ophthalmia, in its different Stages; with Remarks. By J. Mackesy, Surgeon, 1st Battalion 62d Regiment.

1st. Philip Bridges, private in the 1st battalion 62d regiment, was admitted into regimental hospital 17th of April 1808, labouring under ophthalmia. The conjunctiva was much inflamed; its vessels on the globe of the eye turgid with dark blood, and presented the appearance of incipient chemosis. Palpebræ, particularly the upper, much swelled; a puriform discharge, and flow of tears considerable. Duration of the disease 20 days.

2d. Sergeant Massey. The inflammation of both eyes had been considerable; is now on the decline; conjunctiva red; its vessels still turgid; a moderate purulent discharge. Has been 13 days in hospital.

3d. James Mason, admitted the 29th April. The inside of the lids and conjunctiva moderately inflamed; the discharge not remarkably profuse. The 8th day of the disease.

4th. George Vallance, admitted the 7th of May; a recent case; both eyes much inflamed; violent pain; intolerance of light; a profuse flow of tears, but no purulent discharge.

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[*] Experimenta circa hydrargyri effectus in animalia viva. Tub. 1808. 8.—*Reil's* Archiv, B. 8. S. 213. fol.

[†] *Horn's* Archiv, 1810. Jul. S. 252.

These were the different stages and appearances of ophthalmia in the above patients; when, on the 7th of May 1808, a piece of fine linen was impregnated with matter discharged from the eyes of each, by keeping the eye-lids asunder, and carefully applying a fold of it to the globe of the eye and inside of the eye-lids, so as to absorb a portion of the discharge. This piece of linen, thus imbrued with the ophthalmic discharge yet fluid, I immediately applied over my own eyes, in the form of a shade, keeping the matter in contact with my eyes, by pressing on the linen with the fingers. On some of the matter getting between the eye-lids, a slight smarting sensation was produced.

I kept the shade applied in this manner somewhat more than an hour; then took it off, walked about a mile, and on my return felt no unusual sensation in my eyes. On this day, that oppressive and disagreeable wind, known in Sicily by the name of *scirocco*, prevailed, and blew clouds of dust in all directions.

I dined and took the usual quantity of wine; returned to my room at 9 in the evening, applied the linen over my eyes as before, and wore it all night. I removed it at 7 in the morning, examined my eyes, and could perceive no appearance of inflammation.

A few drops of tepid water were rubbed on the discharge, now become hard and crusted; and I applied that part of the linen where the matter was thus softened to the globe of each eye. No inconvenience ensued.

This last trial was made with a view of determining whether the ophthalmic discharge might not receive additional activity from the atmosphere; and its action thereby become more certain, through the medium of sponges, towels, wearing apparel, &c.

This experiment was made at Messina in Sicily; and at a period of about eight months after the 62d regiment had returned from Egypt, where, during its stay in the summer months of 1807, ophthalmia had made extensive and destructive progress in several battalions, particularly in the 21st regiment. Numerous cases likewise occurred in the 62d regiment while quartered there, but in very few was vision much impaired; and in none completely destroyed.

The foregoing trial is, by no means, given as a decisive proof of the *innoxious* property of ophthalmic secretions; as I am fully aware, however accurately performed, it will appear too solitary a fact to warrant any positive conclusion, or to shake the present structure of popular opinion relative to ophthalmic contagion; though, it is presumed, it may not only tend to draw nearer the bonds of analogy which exist between ophthalmia and other phlegmasiæ, but also to direct the inquiries of others to a closer examination of facts connected with the subject.

On the embarkation of the British regiments at Alexandria in Egypt, some very severe cases of ophthalmia occurred on board the transports on our passage to Messina; and I have had repeated opportunities to remark, that, on this occasion, as well as on several others on board transports, where effectual separation of those attacked was impossible, it was not the comrade, or those in the same or nearest birth, who were the next sufferers, but others in a different part of the ship, for the most part contiguous to a port-hole or open hatchway.

On foreign service, the buildings occupied as regimental hospitals are, from necessity, frequently ill calculated to admit of the classification or separation of diseases, as, perhaps, one large apartment constitutes the entire hospital. Under such circumstances favourable for the communication of ophthalmia, if contagious, I have never seen the complaint make any progress in the other patients; and, if a solitary case of ophthalmia took place, it most generally occurred in a person whose bed was near a door, window, or some aperture which admitted a current of air, and not in the vicinity of those labouring under the disease.

The fact of ophthalmia making rapid progress in one battalion, while another, which appears similarly situated, is comparatively free from the disease, though much relied on, may not be a conclusive argument in favour of contagion.

The predisposing causes of many diseases are not sufficiently obvious to come under common observation; and, in every regiment, the individuals composing which being continually subject to the same condition, and obedient to the same unvaried habits, a certain collective disposition, or general temperament, (if I may be allowed the expression,) will be gradually formed and prevail, which, as is observed in individuals, bestows a peculiarity of character that distinguishes corps; and although this temperament, or distinctive feature, is, in most regiments, too subtle to be detected or described, yet it may, notwithstanding, predispose to particular diseases.

From the curious structure, situation, use, and great delicacy of the organ of vision, it is necessarily more subject to the various causes which predispose to or excite inflammation, than any other part of the body; "ingentibus vero, et variis casibus occuli nostri patent."—Celsus.

From these considerations, and from daily observation, I am led to suppose that ophthalmia, under all its varieties, unconnected with constitutional disease, depends on the same predisposing and exciting causes as the other phlegmasiæ, and is produced without the adventitious aid of contagion. However, on a question of this nature, where an opposite opinion rests on high and respectable authorities, I am unwilling to judge with the confidence of absolute decision. While any doubt remains, it is prudent to guard against the possibility of contagion, as far as circumstances may admit.

The division of ophthalmia into purulent and other species, uninfluenced by constitutional complaints, although ingenious, may not be supported by truth.

In the course of a few days, these appearances of the disease may be seen occurring in the same company and barrack-room, and will yield to the same mode of treatment. The purulent discharge, as well as the chronic stage, may be looked on as casual modifications and progressive changes, and not essential distinctions in the same complaint.

An attentive consideration of the peculiarities which mark any situation where ophthalmia most frequently prevails, will materially tend to illustrate the causes of that complaint. To answer such an inquiry, Egypt presents to the medical observer her low plains, sandy deserts, lakes in the neighbourhood of Alexandria, and the dazzling glare reflected from the uniformly white surface which every object there presents. To these also should be added, an atmospheric temperature much above that to which Englishmen are accustomed, night dews unusually heavy, and the minute particles of hot sand which float in the air, and are raised by the lightest breeze;—causes, on the pernicious effects of which, in producing the worst cases of this disease, it is unnecessary to dwell.

The habits, duties, and mode of living of any class of persons most subject to attacks of a particular disease, likewise form material points of consideration in an investigation of this nature. The habitudes, customs, and duties incidental to a military life, peculiarly distinguish the soldier from those of the like sphere and condition who are occupied in civil pursuits, and often, even under the utmost care of the officer, render the exciting causes of ophthalmia unavoidable.

Before closing these remarks, I beg leave to say a few words on the treatment of ophthalmia,—a subject now so exhausted, as to render any further discussion almost needless; nor do I believe that some of the many publications relative to it have considerably advanced our knowledge. To a mind untutored in the school of extensive experience, the impressions received from a confused mass of contradictory materials, convey false notions; and, tending to produce a habit of inconclusive reasoning, render our practice inert, and its principles fluctuating.

Laying aside, therefore, all subtility of distinction, and refinement in hypothetical reasoning, were I permitted to refer to the testimony derived from an experience of twelve years in the treatment of ophthalmia, under almost every possible variety of circumstance that could influence the disease, I would give unlimited assent to the opinion of those who inculcate bold and rapid depletion as the safest and most effectual mode of treatment.

In the present state of medical science, where even the phenomena of disease, most generally admitted as facts, are often disguised, or rest on the unstable basis of doubtful analogy, positive assertions must wear the unseeming garb of unbecoming confidence. But, if such assertions were ever allowable, I would confidently affirm with Scarpa and some others, that a tardiness in the use of evacuants, particularly *a sparing use of the lancet*, is the chief cause of subsequent disorganization and destruction of the eye, in the various shapes of suppuration, ulceration, sloughing and rupture of the cornea, adhesions of the iris, opacities, &c.; and, if these bad results do not occur, such omissions will tend to form and protract an obstinate chronic stage, from the debility induced in the vessels of the membranes, owing to previous excessive action and distention.

That this mode of treatment will succeed in every instance, it would be absurd to advance; and such an assertion would imply a power not within the sphere of human exertion, however wisely directed. In some few cases, the rapid progress and violent symptoms are so urgent as to set at defiance all our resources; and disorganization is effected in the course of a few hours. But this very seldom occurs; and, in a great majority of cases, a prompt application of proper means in the commencement will arrest every bad symptom.

In the spring and summer months of the year 1813, ophthalmia extensively prevailed in the British garrison of Palermo. Many of the inhabitants were likewise attacked with it. No less than 193 cases occurred in the 62d regiment, between April and September, in all the different gradations of severity. Of this number, only one eye was lost by ulceration and sloughing of the cornea; and this occurred in a scrofulous habit, and in an eye impaired and rendered opaque from early infancy by the small-pox.

The excellent interior economy of the regiment enabled me to see the patients almost at the first moment of attack; and unless the case was very slight, blood was immediately extracted, the quantity being regulated by the extent and severity of the inflammation, and apparent habit of the patient, but seldom or never under thirty ounces in any case where the lancet appeared necessary.

Frequently where peculiar severity marked the case, both temporal arteries were opened at the same time, and sixty or seventy ounces rapidly extracted, which was followed by the most immediate relief. In every violent case of ophthalmia, there is, for the most part, an increased vascular action, particularly in the branches of the temporal artery, which enables the surgeon to extract the necessary quantity of blood. To prevent secondary hæmorrhage, the divided artery was secured by the tenaculum, as the pressure of a tight bandage round the temples will, in severe cases, add to the tumefaction of the palpebræ, and increase the pain and inflammation. Nor should the ligatures be applied in a careless manner; both the divided ends of the artery will sometimes require to be secured, particularly in warm climates, where increased atmospheric temperature gives additional force to arterial action. Under such circumstances, unless the artery is secured by ligature, serious loss of blood may occur; particularly in the night-time, when a compress or bandage is liable to be rubbed off or disturbed.

It might prove tedious and uninteresting to detail the secondary means that were used; such as alvine evacuations, scarifications of the turgid vessels on the conjunctiva, incisions into, or removing a portion of, the tumid chemosis. In some cases, where the inside of the eyelids became much swelled, and assumed a granulating spongy appearance, which formed the principal source of the purulent secretion, relief was obtained by removing a portion of it, as recommended by Mr Ware. Blisters were found a doubtful expedient, and should not be employed during the violent inflammatory stage, or previous to evacuants. A pint of the common sea-water, with a small portion of the tartrite of antimony dissolved in it, was found a good purgative; producing, at the same time that it opened the bowels, a gentle diaphoresis on the surface.

The pernicious custom of dark rooms and closed windows should, in most instances, be avoided, particularly in warm climates. In the acute stage of ophthalmia, by raising the temperature of the ward, they render any good effects from the exclusion of light doubtful; and tend powerfully to protract the chronic stage by keeping the patients, as it were, in a warm bath of animal effluvia,—by denying a free circulation of air, and the admission of light, the stimulus of which, perhaps, proves the best remedy in old protracted cases.

The extensive abstraction of blood here recommended will, no doubt, appear surprising, and bordering on temerity, to those who are influenced by the terrors of subsequent debility, and the false inferences connected with that term. But, in violent cases of ophthalmia, no alternative remains between permanent injury of sight, or perhaps total blindness, and a temporary reduction of strength, which is very speedily restored.

Halifax, Nova Scotia, 1st September 1815.

III.

Copy of a Letter on Pharmaceutical Nomenclature, addressed to His Excellency Sir JAMES WYLIE, M. D. Physician to His Imperial Majesty ALEXANDER. By ROBERT LYALL, Doctor of Medicine and Surgery, &c.

DEAR SIR,—As I think the subject of my last conversation with your Excellency of the greatest importance; as I am also of opinion, that pharmaceutical nomenclaturists have of late misled themselves in thinking they were following the principles of Linnæus, while they have been grossly deviating from them; and as I am anxious to see the confusion of our medicinal terminology removed, I hope you will excuse the freedom of the few following observations.

At the present moment, almost every country of Europe, almost every university, has its own pharmacopœia, with its peculiar nomenclature; and even the kingdom of Great Britain and Ireland can boast its three pharmacopœias, with their various terminologies. The disadvantages arising from these circumstances have been often pointed out, and the want of *one general nomenclature* been as often lamented. But as it is scarcely to be expected, however desirable, that the heads of all the universities in Europe shall assemble to form and render valid one system of nomenclature, and as you have, in my opinion, a better opportunity in Russia, from the nature of your high situation, as well as of the laws of the country, * than any individual, of carrying my ideas into effect if approved of, I most willingly submit them to your consideration.

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* I allude here to the influence of an Imperial Ukaze.

The Philosophia Botanica I have repeatedly read and studied, and still oftener admired the genius of its author, displayed in the accuracy, conciseness, and precision of the terminology,—in its application to science in general,—but above all to botany, my favourite pursuit. But my admiration has always been at its height, when I thought of its advantages in rescuing us from the obscurity predominant among the most celebrated botanists, I may say naturalists, in consequence of the want of one *general immutable* terminology, with the addition of the synonyms. It is owing, in the first place, to the formation of his Classes and Orders, but especially, in the second place, to the invention of *trivial names*, that the works of Linnæus have contributed so greatly to the advancement of science. And I question much, if the Linnæan system would have been so much admired, or have immortalized its author, had it not been followed by this valuable invention.

Perhaps a nomenclature for medicines might be formed on the same principles, and in the same manner; *i. e.* we might have Classes and Orders, Genera and Species, and every medicine, with its specific character, might have a trivial name. But my object at present is to insist upon the names of medicines being *fixed* and *immutable*, so that they might be known, if possible, throughout the world by those names, and which might very appropriately (as before) be called their *officinal names*.

The rules for the formation of the *officinal names* are chiefly three: 1st, That they shall be well considered before being adopted; 2dly, That they shall consist as often as possible of one, and, except when impossible, at most of two words; and, 3dly and principally, That they shall be *immutable*.

No man can more highly admire the chemical nomenclature of Lavosier and his followers, than I do; and none wish more earnestly to connect general science, especially chemistry, with pharmacy, both in terminology and practice. Yet as science, particularly chemical science, has of late made such improvements,* and it is to be hoped will continue to advance with rapid progress; and as the names of bodies, more particularly compound bodies, must be changed with every revolution; and, as stability of one *language* or *name* is the most important consideration in pharmaceutical nomenclature, I cannot see the propriety of attempting to make the *officinal* and the *chemical* name always the same; and I am convinced, that, in a few years, should the plan prevalent at present be continued, the confusion now experienced will so greatly increase, as to force the medical colleges and faculty to adopt some *general universal nomenclature.* However, to keep up the connection with the sciences, I think it would be proper and advantageous always to add among the synonyms, the name, ancient and modern, by which the medicine is known to chemists or mineralogists, &c. For the compound substances (of three, or four, or five ingredients) it will also be sufficient, in general, that they be designated in two, or, at most, three words; for if I do not greatly deceive myself, in opposition to high authority, we should seldom nominate medicines, from all or even two or three of their component parts, nor from their effects, because, if we attempt it, the names will either be so long, that they will never be adopted by medical men in their prescriptions, or, if shortened, will fail to accomplish the design; and because it is almost impossible to indicate all the effects of all or most of the ingredients of compound medicines, and, were it accomplished, our language would be confused with such words as these, *cathartica, diuretica, sudorifica,* &c. and their combinations. For illustration of what I have now stated, pardon me for referring to the nomenclature of the Pharmacopœia Castrensis Ruthena,[*] especially of the pills and powders, as well as to many of the names employed by the Edinburgh and London Colleges. I would farther remark, that the man who prescribes calomel, for instance, without knowing its composition, its effect, its dose, &c. is just as unlikely to know what submurias hydrargyri is, or perhaps still more so, as he may not be well acquainted with chemistry; whereas the good practitioner will, in general, recollect the composition, &c. or ingredients of the medicine he prescribes, whatever name he uses. I would therefore say, instead of letting the name indicate the nature or effect of the medicine, let the knowledge of its composition, dose, uses, effects, &c. be in the mind of the physician, which is of more importance, and will render the assistance of such a name unnecessary. However, I would certainly prefer such names as are here alluded to, when they were not otherwise objectionable.

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* I allude pointedly here to the brilliant discoveries of Davy respecting the alkalies and some of the earths, which will cause a total change of chemical nomenclature; although I believe some chemists, except for emendations, previously imagined that the system of nomenclature was arrived at the *ne plus ultra* of perfection.

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[*] The Pharmacopœia Castrensis Ruthena, on which great labour was bestowed, was published by Sir James Wylie in the year 1808, who adopted the new nomenclature, with some improvements and changes.

Perhaps, in the materia medica, the whole of the botanical names may be adopted, as they are almost immutable; but it does not follow, that, although we say *Rheum palmatum*, in prescription we must say *Pulv.* or *Tinct. Rhei palmati.* The trivial name is inconvenient and altogether unnecessary, except when it serves some useful purpose, or where there are different species of the same genus used, as is the case with aloes. Yet I would prefer giving, even in the materia medica, simply the *officinal name*, Rheum, followed by the botanical name as a synonym, thus, *Rheum palmatum Botaniæ.* *

I recollect reading, I am not sure whether in a pamphlet or in the Edinburgh Medical and Surgical Journal, some excellent observations by Dr Bostock of Liverpool on pharmaceutical nomenclature, founded on chemical facts, in objection to the new nomenclature, as it is called; and to which he was led by a different train of reasoning (if I remember) from that I have employed.

I shall now add a few examples of the manner in which I would form a nomenclature, to illustrate my ideas.

POTASSA.

Potassa, *Ph. Edin.* et *Ph. Cast. Ruthen.*
Kali purum, *Lond.* Kali causticum, *Dub.*
Kali causticum siccum, *Ph. Borussic.*
Alkali vegetabile fixum causticum.
Causticum communum acerrimum.
Potassa *chemiæ.*

CREMOR TARTARI.

Super-tartr*is* potassæ, *Ph. Edin.*
Super-tartr*as* potassæ, *Ph. Lond.* et *Cast. Ruth.*
Crystalli tartari, *Ph. Dub.*
Tartari purificatio.
Super-tartris potassæ *chemiæ.*

PULVIS ANTIMONIALIS.

Pulv. oxid. antimon. cum phosph. calcis, *Ph. Edin.*
Pulv. antimonial. *Ph. Lond.* et *Dublin.*
Pulv. oxid. stibii cum sub-phosph. calcis, *Ph. C. Ruth.*
Pulv. Jacobi.
Pulv. oxid. antim. c. phosph. calc. *chemiæ.*

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* H. E. Dr Crichton followed this plan in the materia medica with respect to animals and plants, as I have just seen, in a copy of the Pharmacopœia in usum Nosocomii Pauperum Petropolitani, given me yesterday; although he followed the new nomenclature in the chemical preparations and compositions.

SACCHARUM SATURNI.

Acetis plumbi, *Ph. Ed.*
Plumbi super-acetas, *Ph. Lond.*
Acetas plumb. *Dub.*
Acetas plumbi crystallisetas, *Ph. C. Ruth.*
Plumbum aceticum, *Ph. Boruss.*
Cerussa acetata.

ACETIS PLUMBI CHEMIÆ.

N. B. The confusion of following chemistry, and the changing of names, is well illustrated, especially in the last example, sugar of lead, which has three chemical names. One college reckons it an acetate; another, an acetite; and a third, a super-acetate; and, with the improvement of science, we may soon have some additional names. How many similar examples might be quoted from the three pharmacopœias alone, not to speak of the opinions of some distinguished chemists, who have shewn the inaccuracy of many of the names.

CALOMELAS.

Submurias hydrarg. *Ph. Ed.*
Hydrargyr. submurias, *Ph. Lond.*
Submurias hydrargyr. sublimat. sive calomelas, *Ph. Dublin.*
Murias hydrargyr. oxydulat præparat. *Ph. C. Ruth.*
Mercurius dulcis.
Submurias hydrargyr. *chemiæ.*

N. B. The chemical names also differ here.

These examples will illustrate what I mean, that, under the *Immutable Officinal Name*, printed in large characters, all the important synonyms, and lastly, the chemical name, in a line by itself, shall follow. I have only put down one chemical name; but as chemists differ in opinion sometimes, different names could be added, with a reference to the works of the authors. And at the end of the pharmacopœia, I would have one general index, alphabetically arranged, as in your pharmacopœia, so that any medicine could be found in a moment, either by *old* or *new*, or *chemical* or *botanical* name, &c. This is agreeable to the plan of Linnæus, in his celebrated works; and would be in reality following Linnæan principles. I have marked Potassa, Cremor Tartari, Pulv. Antimon., Saccharum Saturni, Calomelas, as *immutable officinal names.* I only put these down, however, as they strike me to be good names. The name of the medicine most approved should occupy their places, and they can follow as *synonyms.* Another rule, in the formation of names, perhaps, might be added,—that is, as often as possible, when the old name is equally simple and good, that it should be retained, or made the officinal name. This might be done out of respect for our ancestors, but, in my opinion, for a much more powerful reason; viz. that we ourselves may the more easily understand their works; and, as my good friend H. E. Dr Rogerson lately said to me, for the advantage of our successors. To appreciate the advantages of a fixed nomenclature for our posterity, we need only recal to mind how much more easily, and with how much more pleasure, we would read the works of our ancient writers within only a century, in Britain (not to speak of continental writers), had the terminology been the same as at the present day, or as it was only twenty years ago. Indeed, if I mistake not, we have already made considerable progress, and are rapidly advancing into the same state of obscurity, by the multiplicity and confusion of names in pharmaceutical nomenclature, that was so objectionable in botany, for want of a *general plan*, previous to the time of the ingenious, indefatigable, and immortal Linnæus. I wish some individual, of a mind equally clear and capacious, would devote his time to a science still more important than botany, and issue a Pharmaceutical Nomenclature into light worthy of its author, by which he would do himself much honour,—contribute greatly to the advancement of pharmaceutical knowledge,—and, I am of opinion, call forth the gratitude of his medical brethren, but still more so, that of future generations. I shall only add, that I should be happy to see you crowned with the laurels.—I have the honour to be, &c.

St Petersburgh, May 15, *O. S.* 1816.

P. S.—In the above letter I have alluded chiefly to a *Universal Officinal Nomenclature*, the first and most important requisite for a general Pharmacopœia for the empire,—of course an universality of the formulæ for chemical preparations and compound medicines would necessarily follow; a circumstance also of the greatest importance. Would that it were the case throughout Europe.

IV.

Contributions to Diagnosis. By MARSHALL HALL, M. D., &c. *Contribution First: containing,* 1. *The Effects of the Habit of giving Opiates on the Infantine Constitution.* 2. *Inflammatory Affection of the Chest in Infants.* 3. *Inflammation of the large Intestines in Adults.* 4. *Notice on the Beneficial Effect of a Warm and Regulated Temperature in conducting the Mercurial Course, and in the Cure of Syphilis.*

UNDER the title of Contributions to Diagnosis, it is the author's wish to furnish such practical observations, relative principally to the history, description, and discrimination of diseases, as his professional avocations may, from time to time, suggest to his mind. Such, at least, is the general object of these papers. But, as they may sometimes prove rather desultory, and of a mixed nature, it is thought better to omit any further explanation, and rather offer an example or two to the readers of the Medical and Surgical Journal, as specimens of the rest, than occupy its pages by any further preliminary remark.

1. The effects of the habit of administering opiates or anodynes on the infantine constitution.

Feb. 10, 1816.—A boy aged six months. This infant had the breast during the first month after its birth, at which period, being deprived of it, its mother began the pernicious practice of giving it an anodyne every night; a practice which has been continued to the present day, and which has induced the following effects.

The countenance has a shocking disfigured appearance; the colour is sallow; the eye-lids, especially the under ones, are swollen and red, secrete a glutinous matter, and are without lashes; the lips, especially the upper one, are also bloated and swollen; the integuments of the face, in general, are puffy and flabby, and are marked with deep furrows or wrinkles, especially below the under eye-lid, and from the nostrils obliquely downwards, and outwards. When the infant cries or laughs, the countenance assumes an aspect still more shocking, the preceding appearances being increased; the action of the muscles is deeply marked, the integuments being partly stretched, and partly puffed up; the whole face is at once aged, haggard, and painful to see. There is an entire want of that appearance of intelligence observed in infants in general even of this age. It is constantly employed in sucking its thumb; a circumstance which may contribute to aggravate the appearances described.

The infant is thin, emaciated, sickly, and puny, and is said to be less in bulk than on the day of its birth.

The integuments of the body are flabby, like those of the face. The skin is shrivelled.

The infant is apt to be very restless and cross, frequently cries for a long time together unappeased, and sometimes appears to be affected with griping. It was at first stopt by the anodyne; at present it does not sleep, but becomes composed and tranquil, and ceases to cry.

Its appetite is constantly urgent, and it eats so voraciously sometimes, as to be overcome by the load of food. It vomits occasionally only, perhaps not more than is usual with infants at this age. Its bowels are alternately without evacuation for a day or two, and then affected with looseness, and much griping. The stools are dark-coloured, and fetid. Occasionally there is a copious sweat over the body.

This infant was, at this period, made to abstain from its anodyne, and to take small doses of calomel and of magnesia daily, with a nutritious diet. It gradually, during two months, recovered a healthy appearance, and its appetite, bowels, and other functions, became natural; nor did the morbid state of the integuments, countenance, and the general decrepitude, continue after this period.

March 15, 1816.—Subsequently to the last report, three infants, affected in a similar manner from anodyne compositions, have been made to forego their use, and adopt the plan of treatment just noticed. They have all improved remarkably in health, strength, and general appearance.

May 18, 1816.—Since the foregoing remarks were penned, numerous instances of the effects of opiates on the infantine system have fallen under the author's observation. The appearance has, indeed, become quite familiar. One female infant, of five months old, died of the effects of this baneful practice. Before death it presented the most remarkable living miniature of old age, in the female countenance, that can be imagined. To this appearance the absence of the teeth would, no doubt, contribute materially.

The effects of opiates on infants require to be accurately distinguished from those of chronic disease,—of defective nutrition, of syphilis, and from that state of feebleness in which some infants, especially one or both of twins, or those which are born prematurely, or of sickly or aged parents, are brought into the world.

2. Of inflammatory pectoral affections in children.

During the months of December, January, February, and March, inflammatory affections of the chest, in children, were particularly frequent. These affections assumed, in general, one of the four following forms, or appeared as catarrh and hooping-cough.

In the *first* form, there are acuteness of the features in general, and contraction and whiteness about the nostrils and upper lips. The countenance is pale, except a little flush on the cheeks. The nostrils move quick with the alternate motions of respiration. The child lies still, and appears to suffer when moved. The skin is gently warm, and sometimes moist. The respiration is quick, but short; and if the infant begins to cry, this soon ceases, the motions of the chest, which crying implies, being evidently checked by the little sufferer. There is much motion of the abdomen, and little of the chest, during respiration. The cough is dry and checked; the pulse frequent and sharp; the stomach irritable; the bowels regular; the tongue whitish.

In the *second* form of these affections, there are general fulness and deep colour of the countenance; tumidity and enlargement of the veins of the upper eye-lids and of the cheeks; appearance of great general oppression; whiteness of the tongue; much oppression and rattling in respiration; a severe, repeated, and unsuppressed cough, inducing additional tumidity, injection, and lividity of the countenance; frequency and softness of the pulse; a little heat of surface, with occasional moisture.

A similar state of countenance, of general appearance, and of the functions, is also observed in the latter and aggravated stage of the hooping-cough.

A *third* form of infantine pectoral affection is characterized by tumidity, redness and heat of the cheeks, with acuteness and whiteness of the nostrils. There are much heat, tumidity, and dryness of the surface, with subsequent roughness and exfoliation of the cuticle. A rapid, hurried respiration, and a hard dry cough; whiteness and load of the tongue; great frequency of the pulse; constipation. Pain of the head, aggravated by coughing.

In their latter stage, the first and second forms of infantine pectoral complaint just described, are occasionally attended or succeeded by a state of general œdematous paleness and tumidity. The face is pale and swelled, particularly on one side, according to the previous position of the body. A soft flabby tumidity is observed about the hands and feet. The urine is scanty. There is a hard cough; irritability of the stomach; pain; looseness or irregularity of the bowels.

3. Of inflammation of the large intestines.

On Friday evening, Mr W. H. aged 50, and previously subject to dyspepsia, became seized with acute pain in the hypogastric region, attended with desire and difficulty of voiding urine. He seemed to experience relief by taking a little Sp. æth. nitros. The next morning his complaints were renewed, and they increased through the day. In the evening there was violent pain of the hypogastric region, inducing writhing of the body, and still attended with urgent desire to void urine, with ineffectual efforts. This violent attack of pain seemed to have been immediately induced by the operation of a dose of Oleum ricini. The pulse and tongue remained natural. Urine was voided, and ease obtained, on coming out of the warm bath.

On the Sunday, the pain was felt extending generally over the abdomen. The desire to void urine continued, but the bladder was found empty on passing the catheter. No further alvine evacuation. Pulse nearly natural.

On Monday, there had been copious evacuations by stool, and some high-coloured urine had been passed. The pulse was 90, soft and regular; the tongue white.

On Tuesday, the pain seemed to have been again induced by the scanty operation of a saline opening medicine. A particular pain was now distinctly referred to a spot in the left iliac region, increased by pressure, and attended with a more general pain of the abdomen. No writhing of the body, but a degree of restlessness, manifested by throwing about the hands and arms; much flatus on the stomach; a little vomiting, for the first time, on taking any thing; no continued nausea or retching. Pulse 96, in the evening 84, soft and regular; the pain of abdomen continuing; tongue white and loaded.

About 4 A. M. on Wednesday, the 6th day of the disease, the hands were observed to be livid and cold, and the body to be covered with a profuse cold sweat. At 7 A. M. the pulse was 124 and small. A fixed pain, similar to that formerly described as felt in the left iliac region, was now distinctly described as affecting this region on the right side, the former pain having now nearly ceased. The patient was affected with a fallen countenance, a general coldness, and profuse perspiration, clamminess of the mouth, and change of voice. The pulse became gradually smaller and indistinct, and the patient expired at 4 P. M.

On examination of the abdomen, there appeared much exudation and tender adhesions over the surface of the bowels.

The ileum, cæcum, and colon, were injected with numerous blood-vessels; in some parts so as to acquire a dark colour, but the texture remained entire and firm. The appendiculæ pinguedinosæ were injected and covered with a viscid effusion, communicating the appearance of a mass of disease. The external and posterior portion of the bladder appeared also a little injected; its internal surface was perfectly natural. The stomach, duodenum, jejunum; the liver and spleen; the heart and lungs, appeared natural and uninflamed.

This case, which the author has endeavoured to describe with the utmost accuracy and succinctness, seems to have been a spasmodic affection, succeeded by inflammation of the large intestines, and perhaps, in a slight degree, of the bladder. Its principal features were the following: At first, violent pain in the hypogastric region and lower part of the abdomen, inducing writhing of the body, and attended with strangury and constant desire to void urine. The operation of medicine was effectual, but induced the most violent pain. No vomiting. Pulse natural. Afterwards, there was violent fixed pain, referred to a particular spot, tender under pressure, without writhing of the body, but with an appearance of restlessness. Less strangury. Tenesmus; the ready but painful operation of medicine on the bowels. Little or no vomiting. Pulse little affected until the appearance of cold sweat. A peculiar expression of countenance, induced by the action of the depressores angulorum oris.

Dr Willan, in the Diseases of London, has some excellent observations on the diagnosis of the affection in question. He observes, that "mistakes arise respecting inflammation of the lower intestines, or of the colon about its connections with the cæcum or rectum. It does not, as in the case of inflammation of the ileum, or of any part of the smaller intestines, occasion, by excruciating pains, instant debility and depression, with vomiting, cold sweats, &c. There is at first a local but moderate pain, somewhat aggravated by pressure, and attended with thirst and general uneasiness. This pain seems afterwards to diffuse itself, producing strong contractions of the bowels and abdominal muscles, which recur from time to time, but have considerable intervals of ease and tranquillity. The disorder differs, however, from the colic, in this respect, that it is not attended with obstinate costiveness, and that after sufficient evacuations the pain is not mitigated. On the other hand, as the intestine is tender, and probably contracted about the seat of inflammation, a most severe pain is often excited by the operation of the mildest purgative. The pulse may at the beginning be hard and contracted, but it soon becomes weak, small, and perhaps irregular. There is a fur upon the tongue, somewhat thick, and of a whitish colour. The urine has a smooth, pink sediment, which, as the disorder advances, changes its colour, and resembles a rough cretaceous powder. Vomiting is not a constant symptom in this form of enteritis."—Diseases of London, pp. 164, *et seq.*

4. Notice of the beneficial effect of confinement to a warm and regulated temperature during the mercurial course, and in the treatment of syphilis.

The author has lately had occasion to observe very distinctly, in several cases of primary and secondary syphilis, the advantages of a warm and regulated temperature in their treatment. The mercurial course is at once more under the command of the physician;—the remedy produces its effects with more certainty and safety;—the malady yields more pointedly to its operation;—and the several dangerous effects of incautious exposure to cold and damp are avoided, by conducting the treatment of syphilis in a warm and regulated temperature. On this subject an opportunity may occur of writing more at length; at present, it is the author's object simply to suggest and recommend the employment of this mode of conducting the mercurial course, particularly in the treatment of syphilitic affections. Mr Pearson (chap. xii.) and other authors have noticed the necessity of confining syphilitic patients to the house, and of avoiding exposure to a cold and damp atmosphere; but the *full* effects of confinement to an elevated and regulated temperature during the cure of syphilis, are, perhaps, still to be ascertained.

An analogical argument for the efficacy of this mode of treating lues may be drawn from the well-known greater facility with which this affection is cured in the warmer climates, compared with our own, which is so damp, cold, and variable.

V.

Case of Reunion of a separated Portion of the Finger. By Mr JAMES BRAID, Surgeon at Leadhills. Communicated by CHARLES ANDERSON, M.D. Leith.

On 13th June 1816, GEORGE WEIR, æt. 63, by occupation a miner, and occasionally a weaver, whilst using a hatchet cut off a portion of the fore-finger of the left hand in an oblique direction, carrying off all the nail, except a small portion of its root on the ulnar side, together with the soft parts on the anconal and radial aspect, to a little above the first joint. The bone was denuded, but not divided, from the finger having been lying on the radial aspect when the accident happened. He came to me from a considerable distance. Finding, on inquiry, that he had left the detached piece, I returned with him, and found it covered with dust. After having washed it with warm water, I applied and retained the divided part in its former situation by straps of adhesive plaster, and covered the whole with a piece of lint, and a pledget of common cerate.

On 17th, I undressed it for the first time, and, to my satisfaction, found adhesion had taken place completely, except in the nail and cuticle, which last was very thick.

On 19th, I again dressed it, when the nail and skin were become discoloured, and beginning to separate from the subjacent parts.

On 20th, the nail and skin were quite loose, similar to the finger of a glove. I took away the adhesive plaster, and, by means of a pair of forceps and scissars, removed entirely the skin and nail. The subjacent parts appeared quite healthy, and the adhesion complete. He had the sense of feeling even from a small pointed instrument applied gently to the part which had been detached, which shewed plainly that he had the power of sensation in the part itself, and that it did not arise from mechanical pressure on the subjacent parts. From this time I dressed it with common cerate, and a gradual process of absorption of the old and deposition of new matter took place without any fissure between the new and old matter, until nearly the whole of the old substance had been taken away. After this, the absorption went on rather more rapidly than the new matter was deposited, and, of course, made a small fissure. I imagine the more rapid absorption of the old than deposition of new matter took place from some mechanical injury during sleep.

On 30th, I cut off the small portion of old substance, which adhered only by a very small neck. It bled freely, which shewed the connection of blood-vessels with it. I again dressed it with the common cerate. In a few days from this it was entirely covered with skin, and in a month from the time he met with the accident he was able to follow his work as a miner, and in five weeks could use his finger in tying threads whilst weaving. The nail has made considerable advance in growth already, and in a short time, when it has grown a little more, the difference from the original form of the finger will be hardly perceptible. Already it is as useful as ever to him, the motion of the joint being perfect.

Leadhills.

VI.

A Case, disproving the Doctrine, that the Surfaces of a Wound in a State of Suppuration will not Reunite by the first Intention.

By William Balfour, M. D. Edinburgh.

William Cunningham, aged 18, a labourer, applied to me, on the 30th July, with a severe wound in his left thumb, which he received eighteen days before from the tackle of a pulley, while working in a quarry. The whole of the nail was torn away, and the pulp or fleshy part of the thumb, as far back as the first joint, was separated from the bone, with the exception of a semicircular piece of about half an inch in length, and very thin, on the finger side. The lad, unfortunately for him, applied immediately for medical aid, and, for upwards of a fortnight, the wound was kept open by the insertion of dressings to the bottom, with the view, I presume, of effecting a cure by the slow process of granulation.

When the patient came to me, which was eighteen days after the accident, there was a trace of adhesion having begun at one angle of the wound, but which now appeared completely at a stand; there was no appearance of granulations in the bottom of the wound; the denuded parts had a peach-blossom colour; the pendulous surface a honeycomb appearance; and the whole wound discharged a thin and very fœtid matter.

I washed the parts with many successive ablutions of cold water, pressing the pendulous portion at times like a bit of sponge I now attempted to bring the surfaces into contact, as if the wound had been recently inflicted; first, by a piece of rag applied circularly, and then by another longitudinally, or over the point of the thumb. Next day the discharge appeared through the dressings, which I removed, when the parts separated. The discharge was of a better colour and consistence; there was no fœtor; and the superior surface bled at many points without being touched. This circumstance encouraged me to another attempt. I bound up the wound, therefore, after washing it carefully, in the same way as the day before. On the third day the parts adhered. I did not remove the dressings again till the fifth, and then on account only of the great discharge that shewed itself, when I found my labour to be in vain. I now weighed deliberately every circumstance that might tend to defeat my purpose, and found that my anxiety to bring every point of the jagged edge of the pendulous portion into perfect contact with the opposite, was the cause of my disappointment. I found that, at the third dressing, I had drawn the longitudinal strap, or that over the point of the thumb, too tight, which caused the parts farther back, or the pulp of the thumb, to recede from its opposite surface. I therefore now omitted that bandage, and contented myself with securing the apposition of the two surfaces by a bandage applied spirally. This plan succeeded to my utmost wish. Next day adhesion had taken place to a degree sufficient to prevent the part that formerly hung down from separating as formerly from the thumb. This was proved by my being under the necessity of removing the dressings, on account of matter that continued to issue from the denuded parts of the thumb, and the irregular edge of the wound. I now considered my object as accomplished, for no farther discharge took place from the interior of the wound; the surfaces remained in perfect contact; new skin began immediately to shoot across from both edges; and, in a week, the reunion was so firm and complete, that very considerable force would have been requisite to tear the parts asunder.

That the reunion in this case was by the first intention; that is, by a direct communication of vessels, without the intervention of granulations, there cannot be a shadow of doubt. It is not possible that granulations could have sprung up in twenty-four hours sufficient to close a wound in which the whole pulp, or fleshy part of the thumb, was separated from the bone. Healthy granulations are of slow growth; and there were none begun when the patient came under my care. On the contrary, the wound was rapidly degenerating into a putrid state. It had been open eighteen days before I saw it; but when I succeeded in bringing and retaining the surfaces in perfect contact, adhesion took place immediately, as if the injury had been recently inflicted.

By this case I have demonstrated, that the doctrine, so far as I know, universally held, of the surfaces of wounds being incapable of reunion by the first intention, after having passed into a state of suppuration, rests on no foundation: -- a discovery this, fraught with the most beneficial consequences to mankind; and in which the pathologist must observe, that the secretion of pus in a wound can be instantly suspended, and the action of the vessels producing it, changed.

I am aware, that, in the cure of wounds, the most approved practice is, to bring and to retain the parts as nearly in contact as possible. By these means, much less new matter is required for filling up the cavity, than if the sides were allowed to remain at a distance; the cure is, therefore, considered more durable and complete; and the cicatrix is rendered much more sightly.

But these are the only objects and advantages that have ever been proposed by the practice. There is not, in all the authors whom I have consulted, the most distant hint to be met with, of the practicability of reuniting wounds by the first intention, after suppuration has taken place. I am, therefore, warranted to call the preceding case new. And, in this, I am supported by a late publication, which may reasonably be supposed to contain all that is known on the subject, and which has, as follows: "Of wounds, in which it would be in vain, and of course improper, to attempt reunion by the first intention, we have an example in such as have existed for some time before recourse has been had to art for their cure, and in wounds, the edges of which have become inflamed, and which seem to be passing into the state of suppurating sores."—*Dr Thomson's Lectures on Inflammation*, p. 281.

VII.

Observations, with Cases, illustrative of a New, Simple, and Expeditious Mode of Curing Gout. By William Balfour, M. D. Edinburgh.

In my Observations, with cases, illustrative of a new, simple, and expeditious mode of curing rheumatism and sprains, there is the following:

"Note VIII.—Whether there was a mixture of gout in this gentleman's case, or not, it is impossible with absolute certainty to ascertain. He denied that ever any thing of the kind was known in his family; and yet the painful swelling of the joints of some of the toes, strongly indicated something of this nature. I certainly gave it as my decided opinion, that there was no gout present. But whether right or wrong in so doing—one thing is certain, that the pain and swelling of the joints of the toes yielded as readily to percussion and compression, as did the pain and swelling of those parts which were, without doubt, affected with rheumatism. If, therefore, there was any mixture of gout in Sir T——s's case, then percussion and compression are a remedy for gout equally as for rheumatism. I see nothing, indeed, in the nature of things, why they should not be as beneficial in the one disease as in the other. In Madame Rey's case I applied percussion and compression indiscriminately, to parts affected with rheumatism, and to parts which were suffering from gout; and with immediate and great advantage to both. It is my intention to prosecute this subject farther."

Soon after the above work was published, which was in the middle of February last, Madame Rey was attacked, early one morning, with a most violent paroxysm of gout, in one of her great toes. She called her servant, and ordered her to compress and beat the part. This was done with moderate force, which excited the pain to a most torturous pitch. In a fit of despair, Madame Rey commanded the girl to use all her force, which was attended with immediate and complete relief from pain. No derangement of the system, or of any internal organ, followed; nor has she had (22d August) any return of the complaint in her extremities.

To these facts, which, as they did not come under my personal observation, but which are not the less true, I have not given in the form of a case, I have great pleasure in adding the following, as quite decisive of the justness of the opinion expressed in the preceding Note, with regard to the probability of compression and percussion being applicable, with the best effects, in gout.

CASE I.

On the 2d of July I was requested to visit Mr N. M. aged 40, and of a full habit of body, whom I found labouring under a severe fit of gout. About ten or twelve days before I saw him, he had taken a very quick ride of about ten miles, by which he was greatly overheated, and took not the least care of himself afterwards. About two o'clock next morning, he awoke with violent pain in the balls of both great toes, reaching upwards along the upper part of the foot to the ankles; and, in the back part of the leg, to where the gastrocnemius muscle terminates in its tendon.

When I first saw him, the balls of the toes were still much swelled, pained, red, tense, and shining; and motion of the joints impracticable. The whole upper part of the foot, particularly about the roots of the toes and outer ankles, was œdematous. The legs were generally swelled as high as the calf; and along the tendo Achillis, especially at its commencement, very painful. The patient was very lame. He described himself as having had a paroxysm every night, from the commencement of the complaint,—as the pain and heat were, in the night time, intolerable. Had taken no medicine; pulse 80; no appetite.

I applied compression to the balls of the toes; friction to the œdematous parts; percussion to the ankles; and, friction and percussion to the legs,—surrounding all the parts, afterwards, with a roller. The patient walked better immediately. Ordered a brisk purgative of decoction of senna and Epsom salts.

3d.—Medicine operated smartly. Underwent the same treatment, this morning, as yesterday, with increased advantage.

4th.—All the symptoms declining; and walking greatly improved.

5th.—Put on his usual shoe on one foot, this morning, after the operation, without being desired.—Is altogether so much better as not to need my attendance any longer.—I notwithstanding made two or three more calls, to ascertain the permanency of the cure.

This is the first case of pure regular gout, in which I applied compression and percussion; and it is the first instance, so far as I know, of any attempt to alleviate, or to cure gout by mechanical means. My almost instantaneous, and complete, and permanent success, surprised me; but it surprised my patient more. He had suffered so long before I was called, from a conviction that no earthly power could be of any avail in gout; and it was in compliance only with the solicitations and entreaties of his friends, that he submitted to call medical aid at all. By the time, however, that I had made him the third visit, he was of quite a different mind.

Case II.

Mr J. O—, Solicitor, aged 47, of a cholerico-sanguine temperament, and full habit of body, called at my house on the 10th of June, very lame of both feet, occasioned by pain in the soles and ankles. Pain had been increasing for some days, and had now reached a height that threatened to incapacitate the patient from walking altogether. I applied percussion to the parts affected for a few minutes, and then a thin flannel bandage. He immediately walked much better.

As this gentleman was not in the habit of carrying a stick, but had one on this occasion, from dire necessity, and on which he leaned much when he came in, I had the curiosity to look after him when he went away, to observe how he managed. He walked a few yards at first with much the same caution as when he came in, and then took his stick by the middle, and carried it horizontally. This single circumstance, had I had no assurances from the patient's own mouth, would have satisfied me as to the change produced by the operation. I visited him three or four times only, when he walked as well as ever he did in his life. There was no medicine exhibited on this occasion.

On the 22d July, this gentleman awoke in the morning with violent pain in the balls of both great toes, particularly at the flexures of the joints. Could not ascribe it to any cause, except that he had taken a walk the preceding evening rather longer than usual, but from which he experienced no fatigue or inconvenience at the time, and he went to bed, as usual, in perfect good health.

When I visited him at eleven o'clock, forenoon, the parts were swelled, red, tense, and shining. The inflammation and pain were confined almost exclusively to the balls of the great toes, except that in the left, which was by much the worst, the pain reached upwards about half way along the metatarsal bone. The patient experienced continual excruciating pain, even when at perfect rest; his countenance indicated considerable distress, and he complained of sickness, general uneasiness, and oppression; pulse eighty-two.

When I entered my patient's room, he told me, that, if I intended to apply friction to the parts affected, he was afraid he could not suffer it; for he had attempted that himself, but might as well have applied "living fire." I told him I knew friction was quite inapplicable to his case as it then stood, but that I would, notwithstanding, employ mechanical means for moderating the paroxysm; and I hoped with complete success. I therefore grasped the ball of the toe in my hand, applying pressure gradually, to a very considerable degree. Slight pressure gave pain; heavy pressure none. In this manner I compressed the parts, sometimes with one hand; at other times betwixt both hands, for about ten minutes,—now and then interposing gentle percussion; and then applied a thin flannel bandage. Ordered a brisk purgative of senna and sulphate of magnesia.

I visited my patient again, about eight in the evening, when he informed me he had had considerably less pain, or rather none at all, from the moment I left him; but a good deal of cold shivering through the day; pulse 100; medicine operated well; swelling and redness of the parts considerably abated, and motion of the affected joints practicable. Applied compression and percussion, which the patient bore much better than in the morning.

July 23.—Slept the whole night without interruption; pulse eighty; pain, swelling, and redness of the parts almost entirely gone; can suffer them to be handled with the utmost freedom, and walks very well. Applied compression and percussion this morning, in the evening, and again next morning, when my patient went abroad *in the prosecution of his business*.

That this affection was as well marked a paroxysm of gout as can well be imagined, will, I believe, be denied by none. And, I may venture to assert, that the *eau medicinale* itself cannot boast of giving more speedy and complete relief than did percussion and compression in the present instance.

To those who have implicitly adopted the pathology, that, in a certain plethoric and vigorous state of the system, and at a certain age, the extremities are liable to loss of tone;—that this atony is communicated, in some measure, to the whole system, but especially to the stomach;—that, to restore the tone of the parts, inflammation is excited in the extremities by the efforts of nature;—and that, by a certain degree and duration of this inflammatory affection, is the tone of the extremities and of the whole system restored;—to those, I say, who have regulated their practice entirely by this pathology, the mode of cure adopted in the preceding cases must appear dangerous and absurd.

In justification of the practice, however, it will to many be sufficient to say, that no such consequences followed the immediate check given to the inflammatory affection of the great toes, as is generally apprehended from any thing like repulsion of inflammation from the extremities, in gout. So far was this from being the case, that the dyspeptic symptoms in the one, and the sickness and general oppression in the other case, were removed in proportion as the pain and swelling of the extremities gave way. It may be said, that this might be owing to the purgatives employed; and, I am very ready to allow them their proper share in the cures under consideration. I am even ready to admit, that purgatives are necessary or useful in every case of gout; but this, on principles very different from what are maintained by some pathologists of the present day. I do not believe, that the good effects of purgatives and emetics in rheumatism and gout, are to be attributed solely, or even chiefly, to their removing morbid secretions from the stomach and bowels; but to the excitation they occasion in the whole system, and particularly in the absorbents. Any person that has witnessed the effects of a drastic purgative in anasarca, will be at no loss to explain the modus operandi of such medicines, in any disease whose proximate cause is atony, either general or topical. Many of the more acrid cathartics are heating, and powerfully stimulant; and to its stimulant powers alone, I am convinced, does the *eau medicinale* owe its success in the cure of gout. Many are in the habit of taking this medicine in small quantity as a preventive, and with success, when apprehensive of a paroxysm. Now, in such cases its success cannot be attributed to its evacuant powers; for it is not taken in quantity sufficient to produce any sensible evacuation. It therefore follows, that it produces its beneficial effects by increasing the action of the whole system—thereby preventing the atony and consequent inflammation of any particular part.

Dr Sydenham thinks, that in proportion as the inflammation and pain are violent, the paroxysms are shorter, and the interval betwixt them longer. Dr Cullen also, though much inclined to attempt alleviation of symptoms when pain is pressingly acute, ultimately decides, "that the common practice of committing the person to patience and flannel alone, is established upon the best foundation."

If, however, some of the leading circumstances connected with a regular paroxysm of gout are duly considered; the danger of retrocession, from attempts to moderate or remove inflammation and pain from the extremites by topical applications, will not appear *a priori* even to be so great as the two high authorities just quoted would have us to believe.

In Mr O——'s case, then, it appears to me, that the inflammation and pain in the extremities were the cause, not the consequence of the disturbance in the system; for when I first saw him, which was within five hours after the sensible commencement of the paroxysm, the inflammation of the great toes was high, and the pain excruciating, whereas the pulse beat eighty-two only in a minute. There was, therefore, no proportion betwixt the cause and effect, on the supposition of the affection in the extremities being symptomatic only. Again, arterial action increased to a hundred strokes of the pulse in a minute during the day, notwithstanding the inflammation and pain in the toes were greatly moderated. Now, the affection of the joints ought to have kept pace with the increased arterial action, had this not been the consequence but the cause of that. Should it be asked why, if the derangement of the system was symptomatic, fever increased after inflammation and pain subsided? I answer, that as inflammation and pain in any part cannot excite sympathetic action in the system otherwise than gradually; so, when this sympathy is produced, it cannot subside immediately on the abstraction of the cause. The heart and arteries having, from sympathy, acquired a disposition to increased action, this disposition may and does continue its influence, after the original cause has ceased to operate. A stream continues to run, and the ocean to roll, long after the fountain is dried up, and the winds cease to blow.

As to the sickness and general oppression of which this patient complained, they were, without doubt, occasioned by the excessive pain in the extremities. This was proved by their going off in proportion as pain abated; a circumstance, this, of no uncommon occurrence. Local pain occasions sickness, oppression, vomiting, fainting, fever; whether its accession is spontaneous, as in whitloe; or occasioned by the infliction of wounds, as by accidents, and in operations.

From this view, and enumeration of facts, it is, I think, rendered highly probable, if not demonstrated, that the whole of the constitutional symptoms in this case, had their origin in the affection of the extremities; and, therefore, that removing inflammation and pain from the extremities, could produce no constitutional injury.

It is the general opinion, and it has been sanctioned by the first medical authorities, that duration of inflammation in the extremities for a considerable time, is equally conducive to the health of the body, and to the vigour of the mind. This conceit, for it deserves no better a name, tends more than all other considerations combined, to reconcile gouty patients to protracted sufferings. But if confinement to a room for weeks and for months together, is more conducive to health than moderate exercise in the open air, then a sedentary life, indolence, and inaction, should never be enumerated among the sources of disease. The truth is, emancipation from pain becomes positive pleasure for a time; and a person just relieved from long confinement, must be more feelingly alive to every external impression, than if his liberty and health had suffered no interruption.

The modus operandi of compression and percussion in the cure of gout, is doubtless the same as takes place in the cure of rheumatism; that is, they produce their beneficial effects in both diseases, by promoting circulation in the vessels of the affected parts. This is as obvious to the senses in gout as in rheumatism; for in both the preceding cases, the swelling and redness visibly decreased while the patients were in my hands. From hence it might be inferred, that both diseases acknowledge the same proximate cause; but I shall say nothing on this subject at present.

Of the topical application of cold in gout, as recommended by Dr Kinglake, I have no experience. This much only I would observe, that cold applied to the extremities, even when free from disease, has often powerful effects on some of the internal organs,—the bowels for instance. No objection of this kind can be had to compression and percussion; their operation is the most simple and harmless that can be conceived. The nerves, which are the medium of pleasure and of pain, may be so affected by temperature, as to excite morbid sympathy in distant parts; but this cannot happen from compression and percussion, if applied by a skilful hand. Their only effect is, to remove and to obviate congestion. Whenever the former is accomplished, pain ceases. Is it not, therefore, as plain as cause and effect, that congestion is the cause of the pain? Now, is it to be believed for a moment, that in relieving the nerves in any part of the extremities, from pressure, we run the risk of exciting inflammation and pain in the stomach, or any internal organ?

We have an instance, most apposite to our present purpose, of the power of compression in removing pain, and obviating inflammation, in whitloe,—one of the most excruciating diseases to which the human frame is liable. But whatever the peculiarity of the inflammation that takes place in this complaint may be, certain it is, that it may be prevented by compression, timeously applied. I have done it in many instances,*—even when the finger was livid, from the veins being unable to return their blood. This practice I call new likewise, for I never met with it in any author; and I was led to it from observing the effects of compression and percussion in other topical inflammatory affections, as recorded in the work referred to in the beginning of this paper.

VIII.

Cases of Laryngitis. By Dr Ninian Hill, Greenock.

On Monday, the 9th of October last, I was called to ——— ætatis 36, a woman of the sanguine temperament, tall stature, spare habit of body, but strong; who had always enjoyed good health. Had been of late much exposed to fatigue and anxiety in attending two of her children, who were convalescent from scarlatina, with extensive and alarming ulceration of the throat; she had also been exposed to cold from having been obliged to keep the window and door of her bed-room partially open night and day, on account of smoke. Was sensible of having a slight rigor on Friday preceding, and had from that time complained slightly of her throat. On looking into the fauces, there was considerable inflammation of the tonsils, uvula, and velum pendulum palati. Her pulse and heat of skin were natural. Of her own accord she had taken a dose of castor-oil with good effect.

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* It is my intention to give, on some future occasion, a few cases of whitloe, cured by compression.

She was ordered to rub the external fauces with ammoniated oil, and alternately to inhale the vapour of warm water and vinegar, and use the infusum rosæ as a gargle.

Tuesday.—Had passed an uneasy night; was constantly hawking, and spitting clear viscid mucus, and complained of difficulty in swallowing; the colour of the fauces was more florid, but there was not the smallest ulceration of any of the parts, nor efflorescence on the skin, as was expected, for we took it for granted that she had caught the infection from her children, especially as she had never had scarlatina. Her skin was hot, and her pulse frequent, but soft. Was ordered to take a dose of Epsom salts, to continue the inhaling, and the gargle, and a blister was applied over the throat.

Wednesday.—Having been in the country, I did not see her in the course of the day; and having had a message about eight in the evening, informing me that the pain of her throat was much increased, I carried a senior practitioner along with me for consultation. We were told that in the morning she had, for the first time, complained of difficulty of breathing, and that deglutition was totally obstructed. She was sitting in bed, and, when questioned, answered in a whisper scarcely audible; her eye-balls staring, her countenance pale, and strongly expressive of alarm and despair, and her breathing laborious; the inspirations and expiration having the ringing trumpet-like sound peculiar to croup, and so loud, as to be heard over the whole house. Every thing she attempted to swallow was instantly rejected by the mouth and nostrils, with a violent convulsive fit of coughing, threatening instant suffocation. Her skin was burning hot; tongue foul; pulse 120 beats in the minute, strong and hard. Sixteen ounces of blood were immediately drawn from the arm; the salts had operated freely; and the blister over the throat having risen well, a large one was applied to the sternum. On returning at a late hour, and having found the symptoms much the same, the blood sizy, and strongly cupped, I took away about twelve ounces more from the same orifice. She now thought herself much relieved, and I left her more tranquil.

Thursday morning, 9 o'clock.—Has had an uneasy, sleepless night; breathing easier, though loud and sonorous; has been able to swallow a little of her drink, but still the attempt occasions the same convulsive coughing, and threatening of suffocation. Appearances in the fauces much the same; hawking and spitting of mucus continue. Skin hot; tongue foul; pulse strong and hard; catharsis continues; blood sizy and firm. She was again bled to the extent of about ten or twelve ounces. At 3 o'clock in the afternoon, she expressed herself as being greatly better, having been able to swallow more easily, and her breathing being more free, though still noisy. But, on looking at her face, I was much struck with the sudden change. Her features were shrunk; her countenance ghastly pale; her skin and extremities cold, and bedewed with a clammy sweat; her pulse feeble and tremulous, and so quick as not to be measured. Stimulants, cordials, and warm applications, were assiduously administered, in the hope of bringing about reaction, but in vain,—she expired about 6 o'clock.

The body was examined 18 hours after death. The whole abdominal viscera were sound. Upon removing the sternum, the lungs remained distended, but there was not the least mark of disease, not even the slightest adhesion to the pleura costalis. The heart and pericardium were natural. On slitting up the trachea, there was no appearance of inflammation, or effusion. Our attention was next directed to the gullet, in hope of finding the *causa morbi.* To get at this, the trachea was laid hold of, and pulled downwards; the larynx was then cut across, close by the superior cornua of the thyroid cartilage, the divided portions of which were found to be so thickened, and so distended with healthy pus, that there was but a small aperture left for carrying on the function of respiration.

On making this discovery, we were prevented from prosecuting our dissection farther, by the relations who were present.

CASE II.

J. H. skipper, æt. 40, complains of sore throat, which I was called to examine late in the afternoon of Saturday the 6th of January, and found it red and inflamed, without any perceptible swelling of the internal or external fauces to account for the difficulty of deglutition and pain which he seemed to suffer. The febrile symptoms were such as are met with in a common inflamed throat. Pulse 112, soft and compressible; skin rather hot; tongue foul, but moist; thirst moderate; bowels natural. The following history of his complaint was corroborated by his wife. On Thursday evening, while eating a bit of fish, one of the small bones stuck in his throat, which he endeavoured to displace by hawking and coughing forcibly; swallowing at times bread imperfectly manducated, &c. Next day he attended to the discharging of his vessel; spoke, ate, and drank as usual, yet was occasionally annoyed by the bone pricking him. About four in the afternoon, anxious to get rid of a continued annoyance, he thrust his forefinger two or three times down his throat. In one of these attempts he brought on a violent fit of coughing, which forced up the bone, and he threw it into the fire; but says that it was about an inch in length, having a forked extremity, which was coloured to the extent of a line or two with blood. On Saturday morning he began to feel the usual symptoms of cynanche tonsillaris, and thought he would get soon clear of it by keeping in bed; and I, though requested by his wife to see him without his consent, having no suspicion from the symptoms I witnessed of any other affection, directed her to treat it as such. However, when about to leave the room, I was fortunate in hearing the patient emit an uncommon sound in the act of inspiration, and of this I was only sensible when be inspired more fully than common. On being asked if he had any difficulty in breathing?—he said, "a little." In regard to the sound of his voice nothing was remarked. These last mentioned symptoms alarmed, and informed me that I had something more formidable than a common cynanche to deal with. In this view of the case ℥xviii. or xx. of blood were taken in a full stream from the arm; a saline purge; a blister for the throat; and the usual auxiliaries of gargling and inhaling were directed; and I intended seeing him early in the evening. An hour had not elapsed when I was requested to see him, as he was like to be suffocated for want of breath; and the attendants were so alarmed, that I was met on my way by several of them, urging me to make haste, as they thought him dying.

He breathed so high that I heard him before I got to his bed-room, where I found him sitting on his bed-side, unable to speak, supporting his body, which was inclined forward, with his hands upon his knees, making strong efforts to inflate the lungs. The air passing down the larynx caused a harsh sound, like to the hoop in children ill of pertussis, only it quivered. The expirations were free from sound. His eyes were staring; face pale; and he seemed much under the influence of fear. The pulse was now hard and quick. The orifice was again opened and enlarged, and nearly ℔ij. of blood were abstracted before he got faint and resumed the horizontal posture. The violent motion of the respiratory muscles ceased, his breathing became easy and free from sound altogether, so long as he continued faint; in a few minutes his skin relaxed, and a copious perspiration was diffused over his body.

Seeing him wonderfully relieved, we embraced the opportunity of urging him to swallow the salt, for the pain and difficulty of deglutition were so formidable to him, that he frequently took the solution to his mouth, and put it back again; however, with some persuasion and an effort, he got over the greater part of it; but, from the repeated painful exertions it would cost him before he swallowed the whole of it, a powder of jalap and calomel, mixed in jelly, was, with some care, swallowed at a single effort. The patient being desired to point to the part of the throat that was most painful, placed a finger on each side of the thyroid cartilage, and moved them over a space of half an inch; when this was pressed it did not seem to be more sensible than usual. Carrying the fingers back to the parts immediately behind the angles of the inferior maxilla, gave most acute pain; yet there was no swelling or enlargement of the glands to be felt, or any apparent fulness visible.

In looking at the internal fauces, and bringing the root of the tongue forward with the handle of a spoon, retching was excited, which elevated the larynx, and presented the epiglottis erect and swollen, having the appearance of a ripe cherry of the most brilliant red. This and every other examination caused a fit of dyspnœa and threatening suffocation, which lasted for some minutes. His voice could not be raised above a whisper. Fifteen leeches were placed on the anterior part of the trachea, previous to the application of the blister. At 6 in the evening breathing sonorous, yet he seems to inflate the lungs without much effort. Pulse 104; skin moist; leech bites oozing freely. Had an enema to hasten the action of the cathartic. Ten at night, has had no difficult fit of breathing, unless he attempts to swallow, and it goes off in a few minutes. Deglutition completely obstructed.

In trying to gargle his throat, he brought on a violent convulsive cough, which threatened strangulation, and it appeared as if some of the fluid had gone down the windpipe; cannot inhale the vapour of vinegar and water. The bleeding by the leeches having ceased, the blister was applied across the throat. Pulse 96; skin cool and moist. Medicine has had the wished-for effect.

Sunday, 5 A. M.—Being seized with a very severe paroxysm, he breathed so loud, that I heard him when at some distance from the house; by the sound, one would suppose that the air did not get half way down the tube. He sat on his bed-side, grasping his knees violently, pushing forward his head, which was supported by an attendant. His face was pale, his eyes prominent and fixed, which gave him a wild and frantic look; a cold sweat was confined to the upper part of his body, and his feet were cold.

In despair, he tore every thing that was on him, the ligature from his arm, and the blister from his throat. His pulse was weak and tremulous, and could not be numbered. He seemed insensible, making no sign or motion for relief, so that I thought he was about to expire. His head being placed back, so as to put the larynx upon the stretch, gave immediate relief to his breathing, enabling him to inspire with more ease than when his head was inclined forward. An emollient poultice was applied to the vesicated surface, and ordered to be renewed as often as it lost its heat. His feet were immersed in warm water; and, the violence of the paroxysm going off, he swallowed the greater part of 60 gtt. of laudanum in a little water. This fit lasted nearly an hour. I left my patient with the determination of having recourse to the operation of bronchotomy, should he experience such another attack, fearing that there must be some narrowing of the rima glottidis causing these symptoms of strangulation.

I again saw my patient at 10 A. M. and was happy to find that he had succeeded in getting over some mouthfuls of water, yet so imperfectly, that part of it was rejected by causing a slight fit of breathing, attended with convulsive cough. The inflammation that was discernible on the internal fauces is gone; the epiglottis continues still large and inflamed; there is one or two spots of lymph upon it about the size of a small aphthous crust. Pulse 84; skin cool; tongue foul; no thirst; bowels free. Was seized with another fit about 2 P. M. which continued about 20 minutes, but it was mild, and did not give him that distress he experienced while labouring with the one he had in the morning. It had almost subsided before I got to the house. Deglutition being much improved, he swallowed ℥ss. of laudanum, and twelve large leeches were again placed on the trachea.

10. P. M.—Feels much better; expresses himself as being sensible of great relief from the topical bleeding, which, having ceased, the blister was reapplied. Since the commencement of his ailment, spits a great deal of phlegm, which has now become of a more opaque and thick consistence. Pulse 84; skin cool; tongue foul; no thirst; bowels costive; has had an enema with good effect. A draught containing a ʒi of tinct. opii was left with him, the one half to be taken about 11 o'clock, the other at any time when uneasy, or apprehensive of an approaching

paroxysm. Monday morning.—Passed an easy night, having had three hours sleep, which has refreshed him much, having had none since early on Saturday morning; drinks water easily, with calves-foot jelly dissolved in it; sputa in great quantity, the spitting up of which gives him no pain, yet coughing does. Countenance cheerful; the appearance of the fauces natural; epiglottis not so red; and there are a great many more spots of lymph on it, which in the course of the day increased, so as to coat it; blister discharged freely, and he seems to have been more alive to the pain of it than formerly; breathing easy at times. A rough inspiration is emitted when he inspires, as was noticed at the commencement of the disease. Tuesday morning; had a good night. The external fauces, when pressed upon, give him more uneasiness than yesterday. The lymph on the epiglottis has disappeared, yet it is still large, though of a darker red. Makes a full inspiration, without emitting any sound; swallows liquids easily, yet cannot perfectly command the muscles of deglutition. Wednesday.—Swallowed a tea-cupful of panado. Breathes naturally. No change in the aspect of the epiglottis, which induced me to request a repetition of the blister. Thursday.—Blister answered; epiglottis not so red; pulse 74. Friday.—Has been out of bed some hours. Swallows panado freely; epiglottis rather less; pulse 76. In looking at the throat eight days after, the epiglottis was still large, and he was sensible of its being so.

CASE III.

Greenock Infirmary, Saturday, 13th January 1816.—FLORA SMITH, æt. 24, very plethoric, and short in stature, has been complaining of sore throat and hoarseness. On Monday last, these symptoms were aggravated, so that she has been induced to apply at the hospital for relief. No tumour perceptible in the external fauces. When asked where she is pained, she applies her finger to the cricoid cartilage. On depressing the tongue, and looking at the internal fauces, they appear red and inflamed, and slightly swollen. The epiglottis red, erect, and swollen; deglutition difficult; pulse 120, small and sharp; tongue dry; heat of skin moderate; feet cold. Bowels under the operation of salts.

Ft. v. s. ad ℥xvi.
Applicet. emp. vesicator. gutturi.

Inhale the steam of warm water.

11 o'clock P. M.—Feels better since losing the blood. Pulse 112; thirst considerable.

14th.—Passed a sleepless night. Hoarseness no better; inspirations wheezing. There is a slight stridulous noise when she expires. On looking at the posterior fauces, they are, together with the epiglottis, inflamed, and covered with lymph. Complains of some difficulty of deglutition, which pains the thyroid cartilage, to which she applies her finger when asked where it is most painful. The blister answered well. Blood sizy, soft, and very slightly cupped; pulse 128; skin hot; tongue dry. Salts operated.

Fiat v. s. ad ℥xii.
Applicent. parti dolent. hirudin. viij.
Habeat omni horâ submur. hydrarg. gr. v.
Continuet. inhalatio.

15th.—Had some sleep during the night; seems better today; wheezing much the same; has some stifling cough, which pains her throat; deglutition rather difficult; pulse 120; bowels rather costive; tongue dry.

Continuent. pulver.
Habeat q. p. ol. ricini ℥i.

16th.—Had some sleep since morning. The throat does not appear to be so much inflamed. Pulse 112, small and feeble; tongue clean; bowels loose.

Habeat juscul. bovin.
Omittant. pulveres.

17th.—Slept little during the night; the difficulty of breathing still continues; deglutition little impaired; fauces very dry, but there is seemingly little inflammation; pulse 120; tongue dry; thirst great; bowels loose.

Repet. pulv. ex submur. hydr.
Continuet. inhalatio.

18th.—Was much troubled during the night with vomiting, cough, and difficulty of breathing; the hoarseness still continues; pain of throat not so great; deglutition easy; pulse 120; tongue dry; bowels loose.

Continuent. pulveres.

19th.—Symptoms much the same as yesterday.

Continuent. pulveres.

22d.—Symptoms very much relieved.

Omittant. pulveres.

2d February 1816.—Dismissed cured.

Inflammation of the larynx, or cynanche laryngea, has been so well described by Drs Baillie and Farre, and subsequently commented on by them, and other practitioners of great eminence, that it is with the greatest deference I shall add any thing by way of remark. In reviewing these cases, I cannot help thinking, that they have a strong resemblance to croup, particularly Cases I. and III.; and, were I to hazard a conjecture, it would be, that croup is the primary affection, cynanche laryngea being a supervening disease, in consequence of the increased extent of the inflammation, of which we have an example in some cases of pneumonia, where it extends to the pericardium and the heart, and in several other instances of the phlegmasiæ. In no case I have met were the leading symptoms of croup more strongly depicted than in case first; and it may be worth mentioning, that all the friends and bystanders gave it at once the name of "the stopping," the popular name by which croup is well known here. Case II. having proceeded from a mechanical injury, is not so applicable; but the paroxysms of threatening suffocation, and the loud sonorous inspirations were pretty characteristic.

Case III. is not so strongly marked, but sufficiently so to favour my conjecture. I am aware, that inflammation of the fauces, and difficulty of deglutition, are no part of the character of croup; but I have met them in several instances, and have always found them indicative of a more severe attack of the disease.

It is true, that the membrane in the trachea peculiar to croup has not been found in the adult; but, as has been suggested by the ingenious editor of the London Medical Journal, in the number for May last, this may be owing to the difference of age; the effusion of lymph or adhesive inflammation being more common in the earlier periods of life. And here I may mention, that, in two dissections I lately had of children, from three to four years old, who died of croup, I found the membrane lying loose on the back part of, and extending a little way down, the trachea. It was extremely soft, and could hardly be discerned to have been tubular, and occupied so small a space as by no means to be considered as the cause of suffocation; but when the bronchi were examined, they were completely filled with a viscid purulent fluid. But whatever difference of opinion may prevail as to the nature or diagnostic of the disease; notwithstanding the few cases we have on record, the majority is in favour of the practice that has been adopted in these cases I have submitted. Early depletion, both general and local, proportioned to the urgency of the symptoms, the age, and strength of the patient, must be our principal dependence. This is fully evinced from the particulars in Case I., though the time was most unfortunately lost, owing to the particular circumstances under which the patient was placed; circumstances that would have perhaps misled a more experienced practitioner.

In Case II. an opiate was given with happy effect, but not until evacuations had been pushed to the most justifiable extent.

In Case III. large doses of calomel were prescribed, but little advantage, I apprehend, accrued from them; the patient was peevish and disobedient; she submitted to almost every thing that was done for her, with reluctance; several of the doses were afterwards found concealed about her bed, and there were no apparent effects from the mercury, so that, like J. H., she owes her recovery entirely to depletion.

IX.

Notes on the Swelling of the Tops of the Hands and Feet, (described by Dr UNDERWOOD *as a Symptom of painful Dentition,) and on a Spasmodic Affection of the Thumbs and Toes, which very commonly attends it.*

By GEORGE KELLIE, M. D. Leith.

DR UNDERWOOD, in his treatise on the Diseases of Children, after having enumerated the more common symptoms of disease which occur in children during the period of dentition, and which are believed to have their origin in the excitement and sympathies arising in the constitution of some individuals from that process, makes mention of a swelling of the tops of the feet and hands, as one of less ordinary occurrence. "A symptom," he observes, "less common than any of the foregoing, and appearing only in certain habits, is a swelling of the tops of the feet and hands:—it seems, however, to be of no importance, and goes away upon the appearance of the teeth. I have met with it but in infants who cut them painfully, and, being seldom accompanied with a purging, it is likely may in its stead prevent that fever which is otherwise so apt to attend. In some instances, however, this symptom has been accompanied with considerable fever, but in such, children have either been costive, or the stools been fetid and clayey, and the swelling of the extremities very considerable."

This swelling I also have frequently met with in the course of an extensive practice amongst children; and in some cases I have observed it thus slight, and transitory, as described by Dr Underwood, the only writer, in so far as I can discover, who has at all noticed its occurrence as a morbid symptom of difficult dentition. But in many cases this remarkable tumour of the hands and feet has appeared to me to constitute but a part of a disease, of a somewhat more serious and striking nature. Even the swelling itself deserves a more particular description than has been bestowed upon it by Dr Underwood.

It has a considerable degree of roundness and elevation, and looks like that sort of tumour which might arise on the same parts from a blow or contusion. It seems to arise suddenly, as it has generally this roundness and elevation from the time of its first attracting observation. When first observed, it has somewhat of a mottled, livid, and purplish colour; I would say it looks cold like, or that it resembles the chilled hand of a full and healthy child after exposure to a cold and frosty atmosphere. It feels cold also, at least it has no inflammatory heat, and does not appear to be morbidly sensible, or to give any pain to the child when handled. It does not pit on pressure, but rather gives the sensation of firmness and resistance; and when pinched, and attempted to be moved sideways, it has always conveyed to me the notion of a disease of infants, which is known by the name of Skin-bound.

This swelling, which is confined to the anconal aspect of the metacarpus of the hand, and to the rotular aspect of the metatarsus of the foot, terminates abruptly at the carpus and tarsus, insomuch, indeed, that, in lusty children, it seems in these places as if confined by a cord or bandage. I have known this tumour to continue for weeks together. Sometimes it disappears in a few days, not again to return. In other instances, it has from time to time disappeared, and reappeared at short intervals. When it continues without abatement for any length of time, for a week or two, it sometimes softens, becomes looser and more compressible; its colour changes to paler, and acquires more of a leucophlegmatic hue; in a few cases it has become truly leucophlegmatic, and the œdema has spread upwards on the legs and thighs. But this is a very rare occurrence, of which I have seen but one or two examples. Its more sudden disappearance, without undergoing these changes, or without passing to the state of leucophlegmasia, is by far more common. But this swelling of the tops of the hands and feet is, according to my observation, connected, in a great proportion of cases, with another appearance of a more formidable nature, a spastic contraction of the flexor muscles of the thumbs in the upper, and of the toes in the lower extremities. The thumb is rigidly contracted, and permanently bent downwards, and laid flat upon the palm of the hand; and, in like manner, the toes are bent down to the plantar aspect of the foot. Along with the thumb, the carpus also is, in some cases, drawn thenard by a spastic contraction of its flexors, which much increases in appearance the prominence and sphericity of the metacarpal tumour. The child labouring under this state of disease is unhappy and restless, but does not appear to suffer much, if any, pain, in the parts affected, unless an attempt be made to force them from their situation; and even this forcing of the thumb or toes from their unnatural position, does not always make the child cry. Though peevish, fretful, and evidently suffering from irritation, he cannot be said to labour under pyrexia at all times. In some cases, indeed, the pulse is more frequent than in health, and towards evening there is an increase of heat, and perhaps flushing of one or both cheeks, with coldness of the feet. The bowels are commonly torpid, and the stools obtained by laxatives are, as Dr Underwood has described them, fetid and clayey, or green, sour, and slimy. This spasmodic affection, though on some days it may appear more relaxed than on others, is, upon the whole, wonderfully persistent. I have known it continue, with little abatement, for many weeks. In others, it has yielded within a shorter period, in a few days, in a week or a fortnight. In one child, who at length died of supervening marasmus, the contracted state of the thumbs continued, with little occasional relaxations, for three months. The greater number of cases which I have seen have terminated favourably. I have sometimes known eclampsia to supervene to this tonic spasm of the thumbs and toes. One child had repeated fits of convulsion, on three successive days, and eventually recovered. Two others have died after supervening eclampsia. In another case of this disease, in which the thumbs and toes had been contracted for three or four weeks, fever supervened, and the child died after passing through all the symptoms of hydrencephalus acutus. Two other children, affected with the disease in question, have tardily sunk under that train of symptoms which Dr Armstrong distinguished as the hectic of teething. These are the only instances I have met with, in which this disease has had a fatal termination; and that termination, it may be observed, has been by a sort of conversion, or gradation, by the supervention of eclampsia, hydrencephalus, or abdominal fever.

With regard to the connection of the disease which I have now described with the process of dentition, I am not prepared to speak with perfect confidence. Dr Underwood says expressly, that the swelling of the tops of the feet and hands is the consequence of painful teething, and that it goes away upon the appearance of the teeth. Now, although I have seen the swelling of the hands and feet, without the spasm of the thumbs and toes, I have found them very commonly conjoined, and seldom, if ever, have met with the spasm, without some degree of the swelling. Since, also, my attention has been more particularly directed to this disease, I have detected the spasm of the thumbs in cases of the swelling, where it might have escaped the observation of another physician. In these slighter cases, the thumb is pressed close to the metacarpal bone of the fore-finger, instead of being completely deflected upon the palm, as in the more severe and more obvious cases of the disease. I cannot therefore doubt, that the swelling and spasm acknowledge one common cause, and constitute the symptoms of one disease. I must also admit, that it is a disease of the epoch of dentition. All the cases of which I have made any memoranda, have occurred, in general, at the teething period of life, and in children who had yet teeth to cut. Not one of these has been under six months, or above two years of age. But I cannot say with Dr Underwood, that the symptoms always have disappeared on the cutting of the expected teeth, though they certainly have, in some instances. A disease does not necessarily give way on the removal of its exciting cause. Although, therefore, I have known the disease now under consideration to continue unsubdued after the teeth suspected as the exciting cause had made their appearance, and yet yield before others in succession had come forward, I do not consider this observation as invalidating the opinion, that the irritation of painful dentition is the chief of its remote causes. The same uncertainty, and the same apparent looseness of connection, can be alleged of all the diseases of the epoch of dentition; for example, of diarrhœa, fever, and eclampsia. On this subject, I have on another occasion remarked, that it was an error to expect, that a disease, once formed, should cease the moment the tooth is liberated, whether by the natural process of dentition, or by the scarification of the surgeon. It is a common and a wise indication of cure, to remove the remote causes when they are in our power; but we do not expect that the disease shall instantly cease;—we know that we have other indications to fulfil;—that we must restore the disordered functions to their natural and healthy actions;—that we must combat symptom after symptom, till the system returns to the same state in which it was before the remote causes deranged the play of its organs, for the powers of the machine have been weakened, and its wheels deranged.*

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* Inquirer, No. VIII. Edinburgh Medical and Surgical Journal, Vol. III.

In this disease, therefore, I have generally judged it expedient to liberate, by the scarificator, the teeth which are in the course of cutting; and I think, in some cases, with that marked and almost immediate benefit which sometimes follows that operation in eclampsia, in vomiting, and in the diarrhœa of teething, when not inveterate. The general treatment must be grounded on the pathological character of the disease itself, and a knowledge of its tendencies and conversions. The disease is spasmodic, and its most formidable conversions are eclampsia, abdominal fever, and hydrencephalus. The indications, therefore, are, to remove plethora when it exists,—to obviate or restrain vascular excitement,—to correct local determinations,—and to regulate the alvine secretions and discharges.

There is a disease of early infancy called skin-bound, a disease which I have never had an opportunity of seeing, and with which, therefore, I am acquainted by description only, in which, as in the one I have now described, it is remarkable that there exist together an affection of the cutaneous structure, and a tonic spasm of the muscular. The disease called skin-bound appears soon after birth, and very speedily proves fatal. The skin over the whole body is said to acquire a pale waxen colour,—to be cold, hard, resistant, and immoveable, as if fixed to the flesh below; and, in the French hospitals, where this disease destroyed thousands of infants, it was accompanied with tetanus. Dr Underwood, too, in describing the appearances of skin-bound children, as observed by himself, says, he has seen the rigidity extending beyond the cellular membrane, so as to affect the muscles of the lower jaw, which become perfectly rigid. I do not mean to insinuate, by this observation, that I conceive any specific affinity to exist between this most fatal disease which occurs in infants soon after birth, and the comparatively trifling disease of teething children which forms the subject of these notes, but merely to remark this one point of coincidence, that the cutaneous and muscular structures are simultaneously affected in both.

My principal object has been simply to record the more striking features of a tonic spasm affecting the thumbs and toes of children about the period of teething; an affection not of very rare occurrence, but which seems to me to have been passed unnoticed by writers on the diseases of children.

Leith, 10*th September* 1816.

X.

Severe Case of Chorea Sancti Viti. By David Lithgow, M. D. Coleraine, Ireland.

The following case of chorea is communicated, neither on account of its singularity, severity, nor for the introduction of any new plan of treatment; but, through the medium of this widely circulating Journal, to make known, in the more remote parts of the sister kingdom, the treatment of Dr Hamilton in this curious disorder, as he has made it known in his valuable work on Purgative Medicines; a work which, I am sorry to say, in many places has not been read, if even heard of.

Mary Ann Maclammon, ætatis 8, is affected with involuntary movements throughout her whole body; her fingers, especially those of the right hand, are in constant motion; the mouth is contracted, twitches of the eyes, and other involuntary actions of the muscles of the face. The right side was first and most severely affected; her limbs were affected with the same movements, but latterly, they have become paralyzed. She frequently loses all power of speech; but, at intervals, it returns. Sleeps well and quietly, but, on awaking, is not conscious of surrounding objects. She is much emaciated. Abdomen, at the beginning of her illness, was a little swelled; but, by the use of gentle laxatives, this was taken away. Belly natural; occasional flushes of the face, and frequent pains in the head. Pulse 107, small and weak.

About two months ago, began to complain of an inability, with the right hand, to perform her usual exercises, since which time she has been gradually getting worse. Has frequently taken medicine, with the nature of which her friends are unacquainted. About a fortnight ago, after having taken a little senna, she passed two worms, without any alleviation of the symptoms.

Small doses of calomel were now frequently exhibited, which produced many copious stools, of a colour nearly natural. The quantity was increased, and the more violent the action of the purge, the blacker and more unnatural was the appearance of the stools. For a considerable time, appearances were unfavourable; no change for the better being effected. She still continued, however, to receive, three or four times a week, a dose of jalap and calomel; the stools continued black and unnatural; and so obstinate was the complaint, that it was only after a perseverance of three weeks, in the purgative plan alone, that symptoms of amendment began to present themselves. The progress of cure was rapid, after the first symptoms of alleviation began to appear. The motions of the muscles gradually ceased, and strength was gained by the useless limbs. A weakness remained for a considerable time in the right side, but it gradually acquired strength.

Tonic remedies were for a short time exhibited, after the diseased actions had entirely ceased, with the occasional use of a cathartic. Six weeks elapsed from the commencement of the above plan, till a cure was perfected, during which time a single worm only was passed, and that when the patient was in a state of convalescence.

January 27, 1815.

XI.

An Apology for a Fact and an Hypothesis; with Remarks on some few Passages in Mr LAWRENCE'S *"Introduction to Comparative Anatomy and Physiology."* By JAMES WOODHAM, Surgeon, London.

It is doubtless to be lamented, that philosophers of every age should have been so prone to hypothesize. With few exceptions, there is not a philosopher of eminence, either in intellectual or mechanical, in physiological or chemical science, but what has had his hypothesis. Locke had his ideas or pictures, Sir Isaac Newton his subtle æther, Cullen his oscillations, and Sir Humphrey Davy has his vibrations and revolutions. Genius and hypothesis would thus seem to be inseparable. If hypotheses, then, offer no impediment to the progress of science, however futile we may regard them, they need not vehemently excite our indignation or displeasure. A late writer, an anatomist and surgeon of distinguished talents, thinks otherwise; and in his second introductory lecture to comparative anatomy and physiology, has dealt out his censures with an unsparing hand. The majority of hypotheses being gone, as he informs us, to the tomb of the Capulets, I have no wish to disturb their ashes, *requiescant in pace;* but having had the honour to be a pupil and dresser to John Hunter, and received great information from the writings of the gentleman so pointedly alluded to by Mr Lawrence, I shall attempt an apology for the fact of the former, and the hypothesis of the latter, taking leave also to make a few remarks on some passages in Mr Lawrence's lectures.

Mr Hunter, in his "Treatise on the Blood," observes, "An organ is a peculiar conformation of matter (let that matter be what it may), to answer some purpose, the operation of which is mechanical, but mere organization can do nothing; even in mechanics, it must still have something corresponding to a living principle, namely, some power."

Mr Hunter then goes on to relate some experiments, to prove the existence of this principle, which, being generally known, it is unnecessary here to mention. Mr Lawrence prefers, after the French physiologists, for whom he appears to have a great partiality, the terms "vital forces, living forces." It is a rule in philosophy not to multiply causes unnecessarily; and as one cause would seem sufficient in the phenomena designated by the term life, "living principle" is more appropriate. It has been consecrated too, if I may use the expression, by the genius of Hunter, and as Englishmen we ought to retain it. Mr Lawrence errs in classing the living principle with hypothesis. It is not an hypothesis, but a fact, whose existence is proved by the phenomena. Of the nature of this principle we know nothing. In the anatomical lectures delivered before the College of Surgeons in 1814, the lecturer conjectured, that the living principle of Mr Hunter might be a subtle mobile fluid, and this hypothesis he considered as both rational and probable. Though I am no friend to hypothesis, for the reasons assigned by the great northern philosopher, yet that of the lecturer is, I conceive, neither irrational nor improbable, nor has it the smallest tendency to impede the progress of physiological investigation. For though such an hypothesis as Hartley's, to account for perception and thought, be not only improbable but impossible, that of the lecturer is not only possible but probable; and, as every effect must have a cause, what more rational or probable than that certain phenomena of the living body should be occasioned by a subtle mobile fluid? Mr Lawrence has exercised his wit on the comparison of the subtle fluid to magnetism, electricity, &c.; and, in imitation of Hamlet, talks of a whale and a camel. He observes, "that the existence of the magnetic, electric, and galvanic fluids, which is offered as a proof of the existence of a vital fluid, is as much a matter of doubt as that of the vital fluid itself. It is singular, also, that the vital principle should be like both magnetism and electricity, when these two are not like each other." It is true that the lecturer does employ the comparison of electricity and magnetism,—that he does say there is an analogy between them; but I would ask, *might* he not have intended to say galvanism, though he used the term magnetism? And is it not *generally* (I know it is not universally) supposed by natural philosophers, that the phenomena of electricity, galvanism, &c. depend on a subtle fluid? But, admitting the anatomical lectures to contain some few faults, (and what human production is perfect?) they are more than compensated by their great merits. They are eloquently written, their philosophy is of the best and purest kind, and the conclusion is every way worthy of the philosopher and the man.

Mr Lawrence, in his first lecture, observes, "Our first step in the study of life is to examine the organs, that are its material instruments." This sentence would imply that life was something *not* material, (its organs, we know, are.) The adjective material, therefore, if to be understood literally, and not metaphorically, is superfluous, and conveys a notion not, I presume, intended. Mr Lawrence having remarked that it would not be a matter of wonder that the monastic institutions of a barbarous age should contain no provisions for teaching natural science, adds, "But what excuse shall we find for the modern *universities*, as they are called, of a nation which fancies itself the most enlightened in Europe? universities which totally neglect natural history and all its connected pursuits, as if they were no part of *universal* knowledge." I feel as much concern as Mr Lawrence that there should be no provision in our universities for teaching natural history; but, with this defect in our system of education, and acknowledging our inferiority in this department of science, an *impartial* judge, I think, would still allow us to *be* the most enlightened nation in Europe. Whether it regards the philosophers and the statesmen, the poets, the orators, and the historians she has produced, her theologians or her scholars, England need not shrink from a comparison with any modern nation. The "neighbouring nation" has never produced such men as Bacon, and Locke, and Newton,—as Spenser, as Milton, or as Shakespeare,—as Porson or Horne Tooke,—as Sydenham, or John Hunter. No! it is not England, it is the "neighbouring nation," who *fancies* herself "the most enlightened nation in Europe," and who, like ancient Rome, considers all others as barbarous, compared with herself.

"Vital properties," Mr Lawrence says, "such as sensibility and irritability, are the means by which organization is capable of executing its purposes." Vital properties, then, are the *in-*

struments, and *organization* the *agent ?* But a little further, he observes, " organization is the instrument, vital properties the acting power." How are we to reconcile the two opinions? Again, " the particles which make up a living body," we are told, " are dependent on each other; they are all subject to the influence of a cause which animates them. This cause makes them all concur in the production of a common purpose," &c. Afterwards we are informed, " vital properties are the causes of vital functions, in the same way as chemical affinity is the cause of the combinations and decompositions exercised among the component particles of bodies," &c. In the first quotation it will be perceived, that Mr Lawrence maintains the doctrine of Hunter, though he chuses not to give his animating *cause* the name of " living principle," in the last, that of Bichât, and we have *causes* termed " vital forces." If the lecturer erred in considering electricity and magnetism as similar, Mr Lawrence is not without fault in the following passage: " The matter that surrounds us is divided into two great classes, living and dead; the latter is governed by physical laws, such as attraction, gravitation, chemical affinity." Attraction, gravitation, and chemical affinity, I always understood, were principles or powers, not laws; but which acted according to their respective laws. To call attraction, gravitation, &c. laws, therefore, is to speak incorrectly. " Would any length of contemplation," Mr Lawrence asks, " have led you to discover that medullary substance is capable of sensation and of thought?" Certainly not; neither would any length of observation, I believe. For, were it possible to view the medullary portion of the living brain, we should not be authorized in regarding its agitations or motions as constituting actual sensation or thought. What! perception, thought, and volition, imagination, and memory, and reason, an arrangement and play of a set of atoms!! Mr Lawrence talks of an " array of philosophical deduction;" but has he not himself been somewhat guilty of a parade of Germanic *reference ?* Of the tendency of Mr Lawrence's philosophy and that of the lecturer, I shall say nothing; I shall only observe, that that philosophy should be received with caution, whose principles are unfriendly to the best interests of mankind.

August 24, 1816.

PART II.

CRITICAL ANALYSIS.

I.

An Introduction to Comparative Anatomy and Physiology; being Two Introductory Lectures delivered at the Royal College of Surgeons, on the 21st and 25th of March 1816. By William Lawrence, F. R. S. Professor of Anatomy and Surgery to the College; Assistant-Surgeon to St Bartholomew's Hospital; Surgeon to Bethlehem and Bridewell Hospitals; and to the London Infirmary for Diseases of the Eye. 8vo. pp. 179. Callow, London, 1816.

We have much pleasure in embracing the earliest opportunity of introducing these eloquent and scientific lectures to the notice of our readers, who, we doubt not, will derive the same instruction and gratification from the perusal, which we have obtained. They were not composed, it appears, with a view to publication, but have been now printed in consequence of repeated applications to the author for copies of them. He has added, however, numerous notes and references, which greatly enhance the value of the lectures; in as much as they constitute an ample catalogue of all the best sources of information on the subjects here discussed.

The first lecture, which comprehends the "Objects and History of Comparative Anatomy," is rendered particularly valuable by this great store of reference to all the successive discoveries, and to the details of particular facts, which have been presented to the public in various countries and languages. It opens with a warm eulogium on the author's colleague and early preceptor, Mr Abernethy, and with an apology for the imperfections of the course, from the short time for preparation, which had been allowed him, and then proceeds to state the value and objects of comparative anatomy. He observes, that the first step in the study of life, or the science of physiology, is to examine the organs which are the instruments of life; but that it is absolutely necessary to extend this examination beyond the structure of man or any one animal, to view them under all their modifications and combinations, in order to ascertain what is essential in each.

> "The connection and mutual influences of the various organs oppose great and insuperable obstacles to our knowledge of the precise effect and importance of each. Here comparative anatomy comes to our aid: we find in the various classes of animals almost every possible combination of organs, and there is no organ which is not wanting in some class or other. The effect of such combinations and privations cannot but illustrate the nature and operations of the part in question. Fishes have no tympanum, nor external ear; insects no circulating system; many of the lower orders no brain nor nervous system." p. 10.

The author then remarks, that, if we confine our investigations to man, or the more complicated animals, we should be led to the most erroneous conclusions respecting the nature of vitality. A slight injury of the brain will destroy a man or a mammiferous quadruped; while the removal of the whole cranial contents is by no means suddenly fatal in the frog, turtle, and other reptiles. A torsoise lived six months after the skull was opened, and the whole brain removed by Redi. Frogs and newts lived three, four, and five days, after being deprived of their brain by Spallanzani, and leapt, ran, swam, &c. after their hearts were cut out, and lived forty-eight hours. The contrast in the state of vitality in the lower and more simple animals, with that of man and animals of more complicated structure, where the various organs are connected by numerous sympathies, is remarkably illustrated in the reproductive powers of the former, by which lost and mutilated parts are restored. In man and the animals nearly allied to him these powers, though limited, are considerable; as the union of bones and muscles divided by accident, and the restoration of their functions demonstrate; but in the lower order of animals there are scarcely any bounds to this reproductive power.

> "The lower we descend in the scale of beings, the more surprising are the manifestations of this reproductive faculty. The large claws of the crab and lobster, and the entire limbs or tail of the newt, can be restored: the same holds good of the rays of the star-fish and

the arms or tentacula of the cuttle-fish. The entire eye of the newt, with all its coats and humours, has been extirpated, and in the course of ten months succeeded by a new and perfect eye-ball. The whole head of the common snail, with its four horns, has been reproduced after being removed in experiments in many instances. If the earthworm or actinia (the sea anemone) be cut in two, each half will become a perfect animal. The fresh water polype may even be cut into several pieces, each of which will become a perfect polype." p. 19.

Comparative anatomy, however, has not only illustrated general physiology, but has thrown much light even on the functions of the human frame. The formation of the germ in the ovary, and its passage through the Fallopian tube into the uterus, could not have been discovered in the human subject. The nature and uses of the gall-bladder and of the secretion of bile, has been much elucidated by the anatomy of animals.

The importance of comparative anatomy, in reference to natural history, is also very manifest. For there is a close correspondence between the structure and the habits of animals, which mutually illustrate each other. Some striking exemplifications of this subject are quoted in a note from a valuable work of Cuvier. Every organized being, he remarks, consists of parts which correspond mutually. No one part can change, without the others being modified; and, consequently, each taken separately indicates all the others.

"Thus, if the intestines of an animal are adapted by their organization to digest flesh, and that in a recent state, the jaws must be constructed for devouring prey; the claws for seizing and tearing it; the teeth for lacerating and dividing its flesh; the whole apparatus of moving powers for pursuing and overtaking it; the organs of sense for perceiving it at a distance. Nature must, moreover, implant in the brain an impulse or instinct, leading such a creature to conceal itself and lay in wait for its victims. Such are the general conditions of the carnivorous regimen: every flesh-devouring animal necessarily unites them; for its species could not otherwise subsist. But besides these general conditions, there are subordinate ones, relating to the size, the species, and the abode of the prey: and each of these secondary conditions gives rise to differences of detail in the forms which result from the general laws. Hence not only the class, but the order, the genus, and even the species, are expressed in the form of each part."

We have not room to follow out this illustration into all the minutiæ, which are here detailed. The author states, that the succeeding lectures would be a continued illustration of this point: for "no branch of natural knowledge is more interesting than a contemplation of the infinitely diversified organic arrangements, by which animals are adapted to their respective places in the creation."

Having thus demonstrated the importance of the study of comparative anatomy, to the natural historian as the only just ground of classification; to the physiologist as the great source of his knowledge of the functions of life; to the physician and surgeon, who can only build their science upon the basis of physiology; and to the natural theologian, who discovers in these striking modifications of structure, in constant relation to the wants, habits, powers, and situations of animals, the strongest evidence of final purposes; he then proceeds to an able historical detail of the discoveries and works of the distinguished writers on the subject, from Aristotle to the present time. We cannot follow him, in the compass of a review, through this complete and interesting sketch of the progress of the science. He speaks with great praise of the immortal work of Aristotle, who not only knew and dissected a great number of species of animals, "but he studied and described them on a vast and luminous plan, to which none of his successors has approached, ranging the facts, not according to the species, but according to the organs and functions—the only means of arriving at comparative results." p. 33. He made the same grand division of animals which has lately been proposed by the French naturalists, only he incorrectly drew the character from the presence or absence of blood, which Lamarck has drawn from the possession or want of the vertebral column. The author regrets that the Romans had not an Aristotle, since that wonderful people had facilities of studying zoology, which have never since existed.

> "The largest and rarest animals, brought from all parts of the empire, were exhibited in the triumphs, the public games, and the theatres, to amuse the inhabitants of the imperial city. They saw the hippopotamus, the two-horned rhinoceros, and the camelopard, which have not been brought alive into Europe since. Commodus exhibited five hippopotami at one time; and ten camelopards were shewn by Gordian III. Other foreign and remarkable animals were quite common, as the lion, elephant, panther, &c. Augustus shewed twenty-five living crocodiles at once." p. 36.

After tracing the progress of discovery in Italy, the author comes to the results of the establishment of the Royal Society in this country, and the Royal Academy of Sciences at Paris, referring also to the memoirs and collection of the other foreign institutions, and to the writings of distinguished individuals, who have contributed to the advancement of comparative anatomy; of all which he has given an ample and learned detail, with references to their respective papers and publications. He then describes, (with the high praise so justly due to the talents of the band of French naturalists, who have shewn themselves so worthy to be the successors of Buffon, Daubenton, and Vicq d'Azyr, and so worthy too to possess the superb treasure of natural history at the Jardin des Plantes,) the proceedings of these eminent men, Lacepede, Latreille, Lamarck, Peron, &c., and, above all, of Cuvier, of whom and his invaluable works he speaks with becoming enthusiasm. He then proceeds to notice the productions and authors of our own country, paying a zealous tribute of admiration to "the glory of England in this century," Mr Hunter. "In vigour and originality of genius, in comprehension and depth of thought, in unwearied industry, he has been surpassed by none. He was one of those men who give a character to the age in which they live—whose names are associated to the great æras of science—and who do honour to the country that produces them."

The second lecture is a specimen of the most clear and comprehensive logic that we have ever read. It is a general view of the functions of living beings as contradistinguished from the physical qualities of unorganized matter, and from those other phenomena, to which the appellations of magnetic, electrical, galvanic, &c. have been applied: and contains a most perspicuous refutation of the absurd attempts to establish the doctrine of a specific vital principle, which, indeed, nothing but an abuse of language or the blindness of prejudice could ever have supported. He begins, indeed, with a very appropriate exhortation to his auditors, to be particularly on their guard against loose and indefinite expressions: "they are the bane of all science, and have been remarkably injurious in the different departments of our own:" and also to be not less cautious with respect to the verity and authenticity of facts.

The term life, the author observes, is an expression which we use to denote the assemblage of all the functions and phenomena, which are the result of organization, and which distinguish organized and living, from inert and inanimate matter. In order to fix the meaning of the term, it is necessary therefore to investigate these phenomena, and to contrast them carefully with the qualities of inert substances; for it is only by such a comparison that we can expect to derive a clear notion of life. The first point of distinction is the nature of the composition of organized bodies. The term implies the possession of organs or instruments for accomplishing certain purposes; and a living body derives its character from an assemblage of all these parts. But the character of an inorganic body is found equally in the properties of its integral parts: a single grain of marble has the same characters as an entire mountain. Inorganic bodies are commonly homogeneous; all living bodies necessarily heterogeneous, and composed of both solid and fluid parts, and resolvable into a multiplicity of volatile elements. Living bodies have a determinate form peculiar to the species; inorganic bodies have not. The particles which make up a living body are all dependent on each other: the component atoms of an inert body receive no influence from the particles near them.

These, however, are but passive qualities, the most impressive notions of life arise from the activity of organized bodies.

> "We must observe them surrounded by chemical agents, yet preserved from chemical action; maintaining a composition apparently constant and identical, yet keeping up an incessant motion and change of their particles, in which the old materials are discharged and new ones converted into their own substance; producing new bodies, the seat of similar active powers with themselves; yet terminating their own existence by the very action of the principle that has so long preserved them." p. 127.

The superiority of the vital powers over the chemical affinities of surrounding agents, indeed, is so striking, that Stahl and his followers defined life upon this peculiarity alone, "putredini contrarium." But the author remarks, that this is only one of several phenomena, included under our notion of vitality. The uniformity of the animal temperature is another remarkable operation of the living powers, when contrasted with the speedy diffusion and abstraction of heat among all inert bodies. The human body has one and the same heat in the intense colds of Siberia and Greenland, where the thermometer has been observed above 100 degrees below zero; in the burning regions of Africa and America, where it has been seen to rise to above 120°; in the heated rooms of experimenters, where it has stood at 260°; and in stoves used for drying grain, where it has been as high as 290°, and where a heat of 270° was borne for a quarter of an hour. The author, in the notes, has given details of experiments and references relative to these facts. Messrs Duhamel and Tillet found that the girls accustomed to the ovens, could bear a heat of 258° of Fahrenheit for fourteen or fifteen minutes; that they could stay ten minutes at the height of 292°; and that when it reached 315°, they could not support it more than five minutes. The author observes, that as mercurial thermometers were not used, and alcohol expands irregularly in the higher temperatures, these numbers may be too high; but, at all events, it is to be remarked, that meat and fruit were baking by the side of the girls, who undertook these experiments.

Another striking characteristic of living bodies, is the power of acting on other matter, of converting it into their own substance, while at the same time they are constantly throwing off, by movements in the internal parts, much of the old material; so that their substance, though preserving its identity, is never in any two successive instants the same. In all these points, the nature of inorganic bodies presents a complete contrast. They are exposed to the action of all surrounding bodies; and if they undergo any motion, they suffer an immediate change, losing their form and consistence, if the agent be mechanical, and their very nature, if chemical; and their increase depends solely on the addition or juxta-position of new particles on the outside of the old ones.

Having ascertained the phenomena, then, which result from vitality, we naturally wish to inquire for the origin of this power. But the mode in which this power is communicated is beyond our scrutiny. We only know that all living bodies have heretofore formed part of others similar to themselves, from which they have been detached; that life proceeds only from life; and that there exists no other vitality than that which has been transmitted from one living body to another, by an uninterrupted succession. Neither can we trace any connection whatever between the particular texture of the organization, and its vital power: for an examination of the structure of muscular fibres could give us no notion of their power of contraction, nor would any observation of the medullary substance lead us to discover its faculty of sensation. These, and all the other particulars that we know about the nature of living properties, are simply the result of observation; and, therefore, our investigation respecting the organic economy must be necessarily confined to its history, as in the other physical sciences. We can only observe the succession of events, ascertain their series and order, and refer the phenomena ultimately to those general properties or principles, of which the name does not indicate any independent existence, but is to be regarded merely as a generalized expression of the facts. This we refer to the vital properties of sensibility and irritability,—the power of feeling and that of contracting,—in our ultimate analysis of the functions, as the mechanician does to elasticity, in explaining the motions of a watch, or the astronomer to gravitation, in accounting for the course of the heavenly bodies. These words denote what are called the properties of matter, and what are said to be the causes of the phenomena in question. But the idea of a cause implies nothing more than the constant precession of one event to another; and though we believe that the preceding event has a power of producing that which succeeds, yet, in reality, we only know the fact of succession. The author has put this matter in so clear and strong a light, and has demonstrated, both by direct arguments, and by the *reductio ad absurdum*, the error of referring to a specific principle, that we shall make no apology for the following long quotation, trusting that it will induce our readers to refer to the copious and interesting illustrations contained in the lecture itself.

"In the science of physiology we proceed on the observation of facts, of their order and connection: We notice the analogies between them; and deduce the general laws to which they are subject. We are thus led to admit the vital properties, already spoken of, as causes of the various phenomena; in the same way as attraction is recognised for the cause of various physical events. We do not profess to explain *how* the living forces in the one case, or attraction in the other, exert their agency. But some are not content to stop at this point; they wish to draw aside the veil from nature, to display the very essence of the vital properties, and penetrate to their first causes; to shew, independently of the phenomena, what is life, and how irritability and sensibility execute those purposes which so justly excite our admiration. They endeavour to give a physical explanation of the contraction of a muscle, and to teach us how a nerve feels. They suppose the structure of the body to contain an invisible matter or principle, by which it is put in motion. Such is the *impetum faciens* of Hippocrates, the Archeus of Von Helmont, the anima of Stahl, the Materia Vitæ of Hunter, the *calidum innatum*, the vital principle, the subtle and mobile matter of others. There are many names for it; as each successive speculator seems to have fancied that he should establish his own claim to the offspring by baptizing it anew. Either of the names, and either of the explanations may be taken as a sample: They are all equally valuable, and equally illustrative. Most of them, indeed, have long lain in cold obstruction amongst the rubbish of past ages; and the more modern ones are hastening after their predecessors to the vault of all the Capulets.

"The object of explanation is to make a thing more intelligible. Explaining a phenomenon consists in shewing that the facts, which it presents, follow each other in an order analogous to that which is observed in the succession of other more familiar facts. In shewing that the motions of the heavenly bodies follow the same law as the descent of a heavy substance to the earth does, Newton explained the fact. The opinion under our review is not an explanation of that kind; unless indeed you find, what I am not sensible of, that you understand muscular contraction better by being told that an Archeus, or a subtle and mobile matter sets the fibres at work.

"This pretended explanation, in short, is a reference, not to anything that we understand better than the subject to be explained; but to something that we do not understand at all,—to something which cannot be received as a deduction of science, but must be accepted as an object of faith.

"If animals want such aid for executing their functions, how is it that vegetables proceed without the same assistance? They perform vital motions, and exhibit some of the most important: do they accomplish them without an Archeus, or a vital principle? have they no subtle fluid of life?

"If the properties of living matter are to be explained in this way, why should not we adopt the same plan with physical properties, and account for gravitation or chemical affinity by the supposition of appropriate subtle fluids? why does the irritability of a muscle need such an explanation, if explanation it can be called, more than the elective attraction of a salt?

"To make the matter more intelligible, this vital principle is compared to magnetism, to electricity, to galvanism; or it is roundly stated to be oxygen. 'Tis like a camel, or like a whale, or like what you please. You have only to grant that the phenomena of the sciences just alluded to depend on extremely fine and invisible fluids, superadded to the matters in which they are exhibited; and to allow further that life and magnetic, galvanic, and electric phenomena, correspond perfectly: the existence of a subtle matter of life will then be a very probable inference. On this illustration you will naturally remark, that the existence of the magnetic, electric, and galvanic fluids, which is offered as a proof of the existence of a vital fluid, is as much a matter of doubt, as that of the vital fluid itself. It is singular also that the vital principle should be like both magnetism and electricity, when these two are not like each other.

"It would have been interesting to have had this illustration prosecuted a little farther. We should have been pleased to learn whether the human body is more like a loadstone, a voltaic pile, or an electrical machine: whether the organs are to be regarded as Leyden jars, magnetic needles, or batteries.

"The truth is there is no resemblance, no analogy between electricity and life: the two orders of phenomena are completely distinct; they are incommensurable. Electricity illustrates life no more than life illustrates electricity. We might just as well say that an electrical machine operates by means of a vital fluid, as that the nerves and muscles of an animal perform sensation and contraction by virtue of an electric fluid. By selecting one or two minor points, to the neglect of all the important features, a distant similarity may be made out; and this is only in appearance. In the same way, life might be shewn to be like anything else whatever, or anything else to be like life.

"Identity or similarity of cause can only be inferred from identity or resemblance of effect. Which electric operation is like sensation, digestion, absorption, nutrition, generation? Which vital phenomenon resembles the attraction of bodies dissimilarly electrified, or the repulsion of those in similar states of electricity? What function resembles the ignition of metals, and the firing of gases, the decomposition of water, and the subversion of the strongest chemical affinities?" p. 165—172.

The author goes on to state his opinion, that this fiction of an invisible matter to explain the vital motions must have originated from that universal propensity of mankind to account for these phenomena, of which the causes are not obvious, by the mysterious aid of imaginary beings. Whence the ancients had gods for every operation of nature, to hurl the thunderbolt, and agitate the waves;—the people have their elves and fairies, and the theorist his Archeus, his anima, his vital fluid. These fictions are not out of place in the regions of poetry; but they deserve the reprobation which they have here received, when brought forward in the array of philosophical induction.

II.

Essays on Insanity, Hypochondriasis, and other Nervous Affections. By JOHN REID, M. D. Member of the Royal College of Physicians, London; and late Physician to the Finsbury Dispensary. 8vo, pp. 272. Longman and Co. 1816.

IN order to give our readers some notion of the nature and character of these essays, it will be necessary to recal to their recollection the amusement which some of them may have formerly experienced from the perusal of a series of Medical Reports, as they were called, which appeared for a course of years in a popular journal, the Monthly Magazine of London, with the name of our author appended. As they were not addressed to the profession, so they uniformly discarded all grave medical discussion, and dwelt much upon the aberrations and derangements of the intellect, upon hypochondriacal and nervous disorders, and all the train of real and imaginary evils, which indolence, intemperance, and various moral and physical irregularities, committed chiefly by persons of leisure and cultivated minds, are liable to produce. Many of them, therefore, were rather moral disquisitions, than medical reports; and were delivered in brilliant metaphorical language, calculated to impress readers of this class, who would have shrunk from the perusal of mere didactic medical details. This was well enough, under the circumstances in which these reports were originally published. They served to amuse and instruct common readers, although there was often more of dazzling impression, than just and solid information, conveyed by them. But in a work, which, from its title at least, appears to be addressed to medical men, surely something more serious and methodical, something more distinctly applicable to the study and practice of the art, was to be expected, and not a series of moral apothegms, laboured with epigrammatic terseness, and clothed in all the metaphorical splendour that poetical language can bestow. No doubt the author has evinced himself a powerful, and in many instances an elegant writer; and had his work been addressed to the readers of the Monthly Magazine, with an appropriate title, it would have merited and met with its due share of applause.

It is but just to observe, however, that Dr Reid apologizes for having committed these essays to the press in this form; as he had considered them merely as materials towards the formation of a larger and more methodical work, which he had intended to complete, on the subject of mental diseases. But some domestic circumstances, with which the public are not interested, have interfered with the prosecution of that object.

After what we have said, it will scarcely be expected that we should enter into any thing like an analysis of the contents of this volume. It will be sufficient to state the nature of them generally, and to adduce a few specimens of the style of the author, and of his manner of treating the different subjects.

There are seven and twenty essays within the compass of this thin volume, which follow each other in a desultory manner, without any immediate connection, and the subjects of which are necessarily treated with a light and sweeping pen. The first is "on the Influence of the Mind on the Body;" and it is followed by others thus headed. "2. The Power of Volition." —"3. The Fear of Death."—"4. On Pride."—"5. Remorse." —"6. On Solitude."—"7. Excessive Study."—"8. Vicissitude," &c. &c. In the treatment of these subjects there is generally as little that is truly medical, as in the titles of the chapters themselves. There is, however, a considerable degree of point and smartness in the statement of the objections to several popular errors, which often stands in the place of more methodical logic. Thus in the chapter "on the Power of Volition," the absurdity of attempting to laugh nervous patients out of their maladies, is pretty well exhibited.

"Nothing surely can surpass the inhumanity, as well as folly, with which patients of this class are too frequently treated. We often act upon the ill-founded idea that such complaints are altogether dependent upon the power of the will; a notion which, in paradoxical extravagance, scarcely yields to the doctrine of a modern, though now obsolete writer, on the philosophy of morals; who asserted, that no one need die, if, with a sufficient energy, he *determined* to live. To command, or to advise a person labouring under nervous depression, to be cheerful and alert, is no less idle and absurd, than it would be to command or advise a person, under the direct and most intense influence of the sun's rays, to shiver with cold, or one who is "wallowing naked in December's snows," to perspire from a sensation of excessive heat. The practice of laughing at, or scolding a patient of this class, is equally cruel and ineffectual. No one was ever laughed or scolded out of hypochondriasis. It is scarcely likely that we should elevate a person's spirits by insulting his understanding. The malady of the nerves is in general of too obstinate a nature to yield to a sarcasm or a sneer. It would scarcely be more preposterous to think of dissipating a dropsy of the chest, than a distemper of the mind, by the force of ridicule or rebuke. The hypochondriac may feel indeed the edge of satire as keenly as he would that of a sword; but although its point should penetrate his bosom, it would not be likely to let out from it any portion of that noxious matter, by which it is so painfully oppressed." pp. 7—9.

We are disposed to think, however, that this is not the right way of meeting this disposition to laugh and bully nervous patients into health and complacency. For we cannot fully accord with the doctrine here delivered, and commonly maintained, that, "in the class of what are called nervous affections, it unfortunately happens, that the very essence of the disease often consists in a debility of the resolution; *that the ailment of body arises from an impotency of spirit*, a palsy of the power of resistance. A malady occasioned by the weakness of the mind is not likely to be cured by its energy," &c. p. 17. We have little doubt, on the contrary, that this impotency of spirit, and the other symptoms called nervous, are invariably the result of actual corporeal disease, sometimes of structure, but commonly of function; and upon that ground principally we deem the disposition to deride the sufferers equally preposterous, as it would be to attempt to laugh them out of a cough or a colic. Every practitioner must be aware of the long and fruitless attempts that he has often made to rouse this "impotency of spirit" by volatiles and stimulants; and how few sleepless nights he has prevented by his opiates and anodynes; while some, on the other hand, will have marked how unnecessary were such substances, when certain disturbed functions, be they of the stomach, of the bowels, of the liver, or of the uterus, &c., were by any means restored to health. Morbid sensation or morbid inritation, which are the result of diseased function, as well as of diseased structure, give rise in all probability to the various symptoms, corporeal and mental, that are usually denominated nervous. How small an irritation may produce the most formidable nervous disease, it is impossible for us to calculate; since the motions of an ascaris in the rectum will excite a general convulsion, and a graze of the cutis even tetanus itself. How easily therefore may all the numberless miseries and disturbances of nervous patients be accounted for, from the continued minute irritations of some labouring organ or ill-performed function!

The other essays, the titles of which we have mentioned above, are amusing little moral disquisitions, interspersed with a few slight notices of cases, which are never given in detail, but told rather in the way of anecdotes, to enliven the narrative, than related as examples in illustration of medical precepts. The following will serve as specimens of this story-telling style, as well as of the passion for metaphor which abounds to excess, and the occasional quaint conceits which occur in the midst of otherwise good writing.

In the chapter "on Excessive Study," the author says,

> "Many years ago I was consulted with respect to an idiotic man of erudition. It was a case of idiocy arising from an overstrained intellect. The understanding had been *broken down*, in consequence of having been *overloaded*. The head of the patient, in its best estate, might have been compared to *a pawn-broker's shop*, which is furnished principally with other people's goods; a repository merely for ideas, not a soil out of which an idea ever grew." p. 63.

This is the whole case; and again, in the essay "on Vicissitude," he says,

> "I recollect the case of an unfortunate young man who became a victim to the disastrous issue of a variety of mercantile adventures. The same blow which deranged his affairs, produced a disorder of his reason. *His finances and his faculties fell together.* The phantoms of imagination indeed survived, and *seemed to hover over the ashes of his understanding*. The demon of speculation, which had before misled his mind, now possessed it entirely. His projecting spirit, which was always more than moderately intrepid, took, in the maniacal exaltation of his fancy, a still bolder and sublimer flight." p. 70.

Possibly we may have more than satisfied our readers of the justice of the strictures with which we set out. As there are some chapters, however, which bear more of a medical aspect, in the subjects which they present to us, we may inquire if any thing more practical is to be obtained under the heads, "Want of Sleep"—"Intemperance"—"Morbid Affections of the Organs of Sense"—"Physical Malady, the occasion of Mental Disorder."—"Dyspeptic and Hepatic Diseases"—"Palsy, Idiocy, Spasmodic and Convulsive Affections," &c.

In the Essay on Want of Sleep, which is brief, we meet with the same general phraseology, and only one piece of medical advice; viz. a recommendation of "the use of cold or warm bath," as a remedy for wakefulness, when all the medicinal and dietetic opiates had been resorted to in vain. The Essay "on Intemperance," which is long, exhibits a picturesque account of the effects of stimulation on the frame, which may be useful to those who have not already drank deep in the cup. The author observes, "the idea of a short life and a merry one," is plausible enough, if it could be generally realized. But unfortunately what shortens existence is calculated also to make it melancholy.—"The slope towards the grave, these victims of indiscretion find no easy descent. The scene is darkened long before the curtain falls. Having exhausted prematurely all that is delicious in the cup of life, they are obliged to swallow afterwards the bitter dregs. Death is the last, but not the worst result of intemperance," p. 63. He remarks that intemperance, however, is in a certain sense a *relative* thing. "Pope said that more than one glass of wine was to him a debauch." The mischief varies according to the constitution of the individual. In treating of the "Morbid Affections of the Organs of Sense," there is the same absence of medical information and practical precept; indeed the author seems to confound cause and effect, and is rather disposed to refer general nervous diseases to the derangements of the organs of sense, instead of ascribing both to disordered health.

> "Inflammation or debility of the eye," he says, "cannot but be produced by the excessive or unreasonable exercise of it, and the diseased state of that organ is likely to be communicated by sympathy to the brain in particular, and in many instances, even to the whole nervous system. Hence from an injury, often apparently unimportant, inflicted upon the delicate instrument of vision, hysteria, epilepsy, hypochondriasis, and even absolute and obstinate melancholy, have not unfrequently originated." p. 122.

This piece of extraordinary pathology, together with a few desultory anecdotes respecting impaired hearing, constitutes the essay in question. The fourteenth Essay, entitled "Physical Malady, the occasion of Mental Disorder," merely informs us, that a poor woman, at a certain critical period, was for a short time delirious, "fancied that she saw her bed encompassed with a legion of devils, impatient to hurry her to eternal torments:—she derided medicine, and obstinately and haughtily resisted its application,"—till a change took place. And the essay concludes with a few unconnected apothegms about the materialism, scepticism, and dogmatism, that arise among medical men, from their habit of observing the influence of physical causes upon the mental powers.

After a short notice of the "*second-hand* atmosphere of London," every draught of which, that you take, has probably been "in some other person's lungs before," the author treats, in his usual flourishing manner, of "Dyspeptic and Hepatic Diseases," in his sixteenth Essay. In this he is employed in depicting the "hard labour" which the epicure imposes on his stomach; in pointing out the gormandizing advantages of the wealthy to their own destruction; and in recommending, if not religious, at least civil facts, which may "give to the stomach a periodical holiday, and afford an occasional respite from the daily *drudgery of digestion.*" p. 142. He then briefly notices the symptoms of hepatic obstruction, which he considers as much more frequently the effect of a broken constitution, than an independent malady, and affirms, that, "on this account it is not altogether by the remedies which seem to have a particular operation upon this organ, that its irregularities are to be corrected, or its obstructions to be removed, but in a great measure by those other medicines and methods of treatment, that are calculated to restore lost tone to the general fibre, or to prop for a period the tottering pillars of the frame." p. 148. We thought that this Brunonian notion of settling the chief part of medical practice in the administration of tonics, which we conceive to be one of the most pernicious doctrines that ever was promulgated, had been pretty safely deposited in the tomb of all the Capulets. If we were unphilosophical enough to impose any universal law of physic, we believe something the very opposite of this tonic system would be on the whole infinitely more beneficial. Surely all acute diseases, and nine tenths of chronic ones, are improved by abstinence from excitement of every description.

The Essay on "Palsy, Idiocy, &c." consists chiefly of melancholy reflections, on the miserable changes which these maladies produce, and dismal relations of several paralytic and idiotic anecdotes, which no doubt will be esteemed singularly pathetic by certain readers; and then we have three essays of like qualities on "the Hereditary Nature of Madness,"—"On old Age,"—and "on Lunatic Asylums." The first of these is chiefly occupied in declaiming against the *crime* of matrimony in any one who is aware of a decided bias in his own person towards insanity. "No rites, however holy, can, under such circumstances, consecrate the conjugal union."

> "The ruffian who fires at the intended object of his plunder, takes away the life of him only at whom his aim is levelled. The bullet which penetrates the heart of the unfortunate victim, does in general no farther mischief. But he who inflicts upon a single individual the worse than deadly wound of insanity, knows not the numbers to which its venom may be communicated; he poisons a public stream out of which multitudes may drink; he is the enemy, not of one man, but of mankind." p. 186.

After these little flights, we settle upon something that has a more medical aspect, viz. on two essays entitled, "Bleeding," and "Pharmacy." The former is chiefly employed in cautioning us against the vague and empirical notion of the indiscriminate utility, in this class of diseases, of the lancet,—"that minute instrument of mighty mischief;" and the cautions are judicious; as are also the strictures on some abuses in the administration of drugs, which constitute the principal topics of the following Essay. He particularly animadverts on the impropriety of prolonging a medicinal course, during the convalescence from acute diseases, after the natural desire for wholesome and substantial food has returned; and also upon the neglect of simplicity in the combination of medicines.

There is nothing in the remaining essays on "Ablution,"—"Bodily Exercise,"— and "Occupation," to cause us to prolong our review. Perhaps, indeed, our readers may opine, that we have already dwelt too long upon a work, which can scarcely be supposed to have been addressed to the profession; and which is obviously calculated, by its studied display of polished composition, and by its unvarying appeals to the imagination instead of reason, to amuse the general reader, and not to instruct the medical inquirer, or to add anything to the existing stock of medical knowledge.

III.

Chemie thierischer Stoffe.—Tübinger Blätter für Naturwissenschaften und Arzneykunde; herausgegeben von J. H. F. v. AUTHENRIETH, *und* J. G. F. v. BOHNENBERGER. 1. *Band.* 3. *Stück.* 8vo. Tübingen, 1815.

THE article which we now propose to lay before our readers, is rather an abridgment of an analysis of three inaugural dissertations, published at the University of Tübingen, than an original review. But as Professor Authenrieth, to whom we are indebted for what we consider an interesting inquiry, has brought together so well the substance of these treatises, and as he has added his own opinions very freely, and most especially as we are in possession of only one of the original dissertations, we have not hesitated to consider it as an original production.

Animal Chemistry presents a very wide and interesting field, both for experiment and speculation. Hitherto little progress has been made in it, nor could it be otherwise, for till lately chemistry was not sufficiently advanced to enable us to enter upon the subject with advantage. Some valuable facts have indeed been ascertained by the industry of our immediate predecessors, and our contemporaries, but as yet they can scarcely be considered in any other point of view than as approximations. Even of these the diversity, modifications, and accidents, remain to be discovered. The knowledge of our simplest solids and fluids is still far from being complete, nor are the very characters of the immediate principles of animal substances ascertained. Chemists have described, indeed, the properties of fibrine, albumen, gelatine, and mucus, but they have drawn their descriptions from strongly marked varieties, and have retarded the progress of the science by stating them as generic characters. Nothing can shew the imperfection of this branch of chemistry more strongly, than Berzelius's late work upon the subject, in which, besides contradicting many generally received ideas, he denies the very existence of mucus, which till then had been universally spoken of as well understood, and has even stated that his predecessors had mistaken a neutral salt for an animal oxide. As to chemical physiology, we can hardly pretend to any knowledge which can be considered as established. We are not even certain that we have entered the right path, and that we shall not be obliged to retrace our steps. It is not necessary to illustrate this position, to go back to the visionary dreams of the chemical sect of physicians, or to expose the fate of the doctrines of Sylvius. Respiration, as the source of animal heat, which was so complacently dwelt upon by chemists, as a proof of their having been able to penetrate into the mysteries of nature, and of having raised the veil which concealed part of her operations, is once more involved in doubt. The received theory is not only doubted as being inconsistent with facts recently believed to have been ascertained, but the very facts and positions upon which it rested are absolutely denied, and the very contrary asserted to be the truth. Besides being a striking example of our ignorance and presumption in physiological science, all this proves the extreme difficulty of animal chemistry; and the reasons are evident.

Organized matter consists of very few elements, united in an infinite variety of proportions and mode of combination. From destructive analysis, or the reduction of them to their elementary principles, we learn nothing. Their characteristic properties are all gone. Milk, and the poison of the viper, bread and aconite, yield the same products. They are equally resolved into carbon, oxygen, hydrogen, and azote,—nor are the proportions of these notably different. The next great and almost insuperable obstacle to the progress of animal chemistry is the mutability and unsteadiness of the substances upon which it is engaged. The mode of combination of the elements in organic, and especially in animal substances, is so opposite to their affinities, as ascertained in regard to inanimate matter, that one of the characteristics of life has been derived from a supposed property of counteracting or resisting chemical attraction. But life is no sooner at an end, than the organs which it has quitted become subjected to the laws which affect inanimate matter. Chemical affinity begins to act on, and to arrange the elementary particles in new modes of combination. Many animal substances are essentially altered before we can even commence their examination. Again, our very modes of analysis destroy the object of our inquiry. The elements of organized substances hang together by so slight an affinity, that they cannot suffer the actions of the weakest reagent without decomposition. We are always at a loss whether the substance, about which we are employed, existed previously in the organ or fluid we are examining, or whether it be a mere product of our process. And it is to the same circumstance, perhaps, the weakness of affinity by which the elements are combined, that they unite in such an infinite variety of proportion, giving rise to as great a variety of substance. Here we have no definite quantities, no arithmetical proportions, by which we may confirm and rectify our analysis. The numerous substances composing animal bodies have no striking generic characters, but pass into each other by insensible gradations.

If the difficulty of ascertaining any thing satisfactory about the chemistry of animal substances, when deprived of life, be so great, it is increased to a degree which we are incapable of appreciating, when the operations of an agent so very powerful, and so unknown, upon them, are to be considered.

This statement of the difficulties to be encountered in our attempts to advance chemical physiology, is not made with the view of deterring inquirers; but, on the contrary, with the earnest desire of exciting them to greater efforts, by representing it as worthy of the attention of the greatest masters of chemical analysis, and of cautioning the younger artist against the common sources of failure.

But we are losing sight of our author, and writing a dissertation. We have been led into this train of thought by the perusal of the essay before us, in which there is a bold, and, if not a successful, at least a respectable attempt, made to throw some light on the function of excretion. The writer is Professor Authenrieth of Tubingen; and, although the experiments are said to have been performed by the young physicians in whose inaugural dissertation they are recorded and detailed, it is evident that they originated in the doctrines of their teacher. With our analysis, or rather abridgment of the article, we have not blended criticism, although, on many occasions, there was ample opportunity for it. Our object was not to prove wherein the professor and his students have failed to explain a very difficult subject of investigation, but to shew what they have been able to do. The leading idea is, that, as the foreign substances by which our body is nourished are gradually assimilated to our nature, by being successively converted into chyme, and chyle, and blood, from which last all our organs and fluids are formed and separated, so is the substance of our body, after it has fulfilled its functions, gradually prepared for excretion by passing through several successive changes; and the experiments and observations here related, are intended to prove, that the fibrine, albumen, and gelatine, of which our organs consist, are converted into osmazom, in preparation to its being excreted in the form of urea, bile, &c. The terms alcoholic extract, extractive, or extract, are often used in the succeeding pages as synonymous with osmazom.

As every article of food is reduced by the action of the living system to a common state before it be fully assimilated and distributed among all the diversity of organs, so Professor Authenrieth thinks it might be expected, that, when the materials exhausted in supporting life come to be thrown out of the system, they should be reduced to a common state before they be distributed to the various organs of secretion, and finally decomposed. But, as the chyme and chyle appear sooner than the blood, and even in the alimentary canal, we might be led by analogy to suppose, that an approach to a common form of excretory matter should be detected in the organs which first part with their used parts to the blood for the purpose of excretion. This common matter of excretion could only be looked for in such an immediate constituent of the body, as, no longer capable of a fibrous structure, occurs in every organ, and more abundantly in organs which undergo a change of their substance rapidly, than in those which are slow in their living process. Each of the three Tubingen inaugural dissertations here noticed, deliver a contribution to the probability of the opinion, that the animal matter which Thenard has denominated *osmazom*, is the common form of excretory matter, the counterpart of chyle. It is described as of a yellow-brown colour, or brown when concentrated, of a very strong taste and smell, soluble in water and alcohol, and, hence, certainly, not first formed, though changed by these fluids, and resembling gelatino-resinous extractive. Each of these dissertations, the experiments in which belong exclusively to their respective authors, has a particular problem to solve. In Dr Gsell's * experiments, the osmazom was uniformly extracted by alcohol, sp. gr. 791, in the heat of the sun, from animal matters which contained no visible fat; the alcoholic solution was reduced by a gentle heat to the thickness of honey, and the whole weighed very exactly. This extract must necessarily contain more or less of crystallizable adipose matter, and, when made from gelatinous organs, always some gelatine mixed with the true osmazom; and hence these experiments are only valuable when compared with each other.

Blood gave various proportions of extractive matter, (osmazom) according as it was analyzed entire, or each of its parts separately; but that of the cow always yielded more than that of the calf. Also the stronger muscles of the cow gave more than the weaker muscles of the calf; and finally, the urine of the cow contained more matter soluble in alcohol, than that of the calf. In like manner, the blood and urine of the cat contained more than that of the calf; and, although the urine of the cat, which smells much stronger than that of the cow, contained in general a little less extractive, yet it was most remarkable, that the blood of the cat contained a notably greater quantity of extractive than that of the cow, almost, it might be said, in proportion to its urinous smell.

Muscle which is subjected to a more rapid change of its constituents than tendons or bones, gave in the cow as well as in calf more osmazom than these parts; but it must be noted, that the softer tendons and bones of the calf gave more extract than those of the cow, owing probably to the admixture of gelatine. The nerve of the cow, less excitable from old age, gave less extract than the more sensible nerve of the calf; but, as mere inspection seemed to indicate, it was probably owing more to the admixture of crystallizable fat than to the quantity of pure osmazom, that nerve yielded more soluble matter altogether than muscle.

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* *F. Gsell,* (Praeside *Authenrieth,*) Diss. sistens experimenta de sejunctione materiae vivae, vim cantharidum in renes specificam illustrante. Tubingae, 1812.

Colour, solubility in alcohol and water, strong smell and taste, constitute analogies between osmazom and urea, just as the extractive matter of bile and the ear-wax obviously belong to the same class of substances. Tincture of cantharides on evaporation leaves an extract, of which one brown-coloured constituent is perfectly soluble in warm water, but is in a great measure decomposed and dissipated with strong smelling vapours in the heat of boiling water, and is therefore, in like manner, analogous to urea. According to Robiquet, by an inverse procedure alcohol takes up one part of a watery extract of cantharides, and leaves another undissolved; and he states, that he found real uric acid in a watery extract of fresh cantharides.

Now, if foreign matters taken into the body only stimulate those organs which attract them in the first place, and then eject them out of the body, and if upon this principle the specific action of medicines principally depends; if, farther, an excretory organ attract and expel most readily that foreign substance which is most analogous to the fluids of the body itself which that organ attracts, forms, and expells—it becomes evident why cantharides act upon the kidneys. But if cantharides, urea, and osmazom are allied, it follows, that, when extract of cantharides is given to an animal, the quantity of urea must be increased in its urine; also, the excited kidneys will, by their proper action, reject more urea than the quantity usually excreted by them in their unexcited state, together with that of the extract of cantharides given; and the stronger attraction of osmazom to the kidneys for this purpose, and its conversion into urea, must diminish its quantity in the rest of the body. Lastly, if the cantharides excite general irritation of the whole body, and along with it greater decomposition of organic substance generally, there must occur at last an increase of the osmazom, dispersed through the whole body, in proportion to the degree of excitement, notwithstanding the increase of the urea in the urine.

All this Professor Authenrieth thinks proved by some experiments of Dr Gsell. He gave a cat one evening a grain of watery extract of cantharides, and repeated the dose next morning. The quantity of alcoholic extract obtained from its urine, which it made at mid-day, was 19.875 grains, instead of 8.05, the natural quantity, to which, if we add the two grains of extract of cantharides, the kidneys must have derived 9.825 grains of extract from some other source. When the experiment was repeated on the same animal, the excessive quantity of extractive matter in the urine was much less, shewing that its source was beginning to fail. When repeated a third time, the urine was tinged with blood, proving that the kidneys were much stimulated, yet the proportion of extract remained nearly the same. In a fourth repetition, therefore, where the excitement was increased, the quantity of extract was again increased, but not in the same degree as in the first experiment. When given for the fifth time, at an equal interval, and only to the extent of one grain, but the urine was now of a fiery red colour, the proportion of extract to the whole urine amounted to even more than a third part of that which appeared in the first experiment. The animal was now killed, and it appeared that the quantity of extract was increased in the brain and muscles by the general excitement, notwithstanding so much more had been separated by the urine. The brain gave 24.475 grains of extract instead of 20.367, and the muscles 38,541 instead of 16.666 from each 1000. On the contrary, the blood furnished less than the half of that of a healthy cat, owing probably to its very rapid excretion after it was taken up from the organs. No inflammation, not even of its urinary passages, was obvious in the body of this animal. Hence these changes seem to have arisen entirely from the specific action of the cantharides.

A rabbit, which got three grains of watery extract of cantharides in the course of a day and a half, died on the second day of gangrenous inflammation, which attacked the beginning of the large intestines, but did not affect the urinary organs, or any other part of the alimentary canal. In this case the brain furnished extractive matter in the proportion only of 44.918 instead of 50.458 parts in the 1000, and its muscles only 19.581 instead of 21 375. Yet, after deducting the quantity of urea which the rabbit would have furnished at any rate, the whole quantity of the extract of cantharides given did not reappear in the urine, probably because a great proportion of the excreted matter was diverted from the kidneys to the inflamed intestines and the liver, which was found much enlarged, and of a dark brown colour. The animal seemed to have lived only so long as was necessary to throw off more quickly the osmazom already present in the other organs, by its attraction towards the excited excretory organs, the kidneys; but not long enough to prepare more new osmazom than the excretories could throw off.

Professor Authenrieth quotes a curious experiment made by Dr Wienholt, to shew that an excretory organ is less stimulated by the excretory matter which has been thrown off by itself, when again introduced into the system, than by a foreign matter nearly allied to it. The alcoholic extract of its own urine was given to a rabbit, which had the effect of reducing the quantity of its urine, but of increasing its solid contents considerably, but not half as much as the same quantity of extract of cantharides would have done. Still the fact is important, as shewing the great changes produced upon the urine by urea taken into the stomach, and the relation of excreted matter to excretory organs.

The next dissertation which Professor Authenrieth analyses is that of Dr C. G. Gmelin, * which obtained a golden medal from the King of Wurtemberg, as the best answer to a question proposed by the medical faculty of Erlangen. Its subject is the chemical analysis of the kidney of man, the cow, and the cat. The kidneys used in these experiments were freed as much as possible from blood, by injecting water into the artery, until it passed off unmixed by the ureter. But from an experiment of Dr Wienholt's, there is reason to believe that this mode of preparation removed some of the proper substance of the kidney, which renders the results as to positive quantity doubtful, but does not affect the comparative result. The kidneys thus washed, were beat in a wooden mortar, and the pulp washed with distilled water as long as it seemed to give out any thing to the water. The residuum was considered as fibrine. The washings, filtered through linen, yielded albumen on being boiled, and retained in solution gelatine, extractive, and salts; and to this solution was added whatever boiling-water could extract from the fibrine. To the extract obtained by evaporating this mixed solution, the term of impure gelatine is applied, which, by the action of alcohol, was separated into osmazon and pure gelatine.

The human kidney furnished a fibrine which was difficultly soluble in acids. The albumen coagulated at 135° Fahrenheit, and when dissolved in caustic soda, shewed a slight trace of sulphureted hydrogen, when treated with sulphuric acid. The gelatine, evaporated to dryness, and again dissolved in water, had little tendency to congeal in the cold, so that it scarcely took place with two parts dissolved in three of water, whereas one of isinglass gelatinizes with 150 of water. Alcohol sp. gr. 0.808 extracted from the dried gelatine, an extract of a dark brown colour, insoluble in water, and indeed precipitable from the tincture by water, easily soluble in naphtha and oil of turpentine, not capable of being rendered quite dry, of a greasy feel, sweetish smell, and unpleasant biting taste, and burning with difficulty, emitting ammoniacal fumes. When treated separately, the cortical substance gave less of this alcoholic extract than

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* *Christ. Gottl. Gmelin*, (Praeside *Ferd. Gottl. Gmelin.*) Diss. sistens analysin chemicam renum hominis, vaccæ et felis. Tubingæ, 1814.

the papillary substance, in the proportion of 3 to 4, and it was also less resinous. Dr Gmelin considers this substance as a product of the action of the alcohol upon the gelatine; and the gelatine itself, which congealed so imperfectly, as originally differing from the usual constitution of gelatine. But Professor Authenrieth thinks it much more probable that this extract was previously combined with the gelatine, and gave it its peculiar properties, and that it was only partially extracted from the gelatine by alcohol, and thus presented in a resinous form. For Dr Wienholt found that the gelatine of human muscle, which does not congeal, shews a tendency to congeal when the animal extractive matter is extracted from it by alcohol; and besides alcohol always extracts only a certain proportion of extractive matter from impure gelatine, but never converts the one wholly into the other. Dr Gmelin himself remarked, that, in similar proportions, the gelatine of the kidney of the cat did not congeal at all,—that of man very difficultly, and that of the cow more easily; and of these the kidney of the cat contains most osmazom, that of the cow least. Lastly, this extractive matter is not to be confounded with the artificial adipocerous conversion of fibrine and albumen. The osmazom may owe its more resinous appearance, but not its existence, to the action of the alcohol.

From the effect of chemical reagents, Dr Gmelin concluded that no uric acid exists in the substance of the human kidney, either in the cortical or papillary substance. The ashes of the human kidney furnished phosphate of soda in great quantity, muriate of soda, and phosphate of lime, with traces of lime and iron, but none of potass.

The kidney of the cow yielded fibrine of the same nature as that of man. The albumen was more soluble in acids, and also shewed a very slight trace of sulphur. The gelatine congealed with difficulty, but much more easily than that of the human kidney, and contained free acid, which seemed to be the phosphoric. The osmazom extracted by alcohol had a pungent, almost burning taste, approaching to that of urea; in other respects it resembled the osmazom of the human kidney. Here, also, the papillary substance contained more osmazom and more albumen than the cortical, but neither of them contained either urea or uric acid. The ashes analyzed gave

Phosphate and muriate of soda	ʒi. gr. iij.
Sulphate of lime and sulphate of potass, a trace,	ʒvii. gr. xxii.
Iron, a distinct trace,	
	℥i. ʒviii. gr. xxv.

It is remarkable, that, with so large a quantity of phosphate of lime in the kidney of the cow, the urine should contain no phosphates as well as no uric acid. The calculi, which occur so frequently in the kidneys of the cow, consist of carbonate of lime, with a little animal matter, and yet the substance of the kidney itself contains no lime, which is abundant in that of the cat.

The kidney of the cat also contained no uric acid in its substance. Its fibrine was difficultly soluble in acids. The albumen, as well as the gelatine, had a peculiar and unpleasant smell, which in the latter was strong. The gelatine did not congeal at all, and contained free acid, and evidently much saline matter, with a basis of potass. The osmazom extracted by alcohol had a very unpleasant smell, and a very nauseous, somewhat pungent taste, and was more soluble in alcohol, and in æther, than the similar extract of the kidney of man, and still more than that of the cow. The ashes, besides phosphate of potass, and perhaps phosphate of soda, contained a little phosphate of lime, and much more free lime and traces of iron. It was remarkable, Professor Authenrieth observes, to find so much calcareous matter in the kidney of a carnivorous animal, while that of a graminivorous animal scarcely contained a trace of it, thus proving that each kind of animal has its peculiar chemical as well as anatomical character.

Dr Wienholt's * inaugural dissertation treats of the analysis of the organs of the human body, especially of the secreting organs. The body of a healthy man, of 30 or 40, frozen to death, furnished all the organs examined, except the pancreas and cellular substance. It has been questioned, whether the blood, found in any organ, is a part of its texture or not. Dr Wienholt admits, that what is contained in the large vessels is not, but considers that which is in the capillary vessels as a proper part of the organs, as it is probably altered to the nature of the organ. Instead, therefore, of removing the blood by injecting water into the artery, he preferred merely washing the organ in water; and then, having cut it into pieces of a certain size, subjected them to the pressure of a certain weight for half an hour, to separate all the blood contained in the larger vessels. They were immediately subjected to analysis, which was conducted much in the same way as by Dr Gmelin. Dr Wienholt found, that alcohol took up matter, not only from the gelatine extracted by water and dried, and from the dried albumen, but also from the dried fibre; and also, always, a determinate, and,

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* *Daniel Wienholt* (Praeside *Autenrieth*,) Diss. sistens Analysin organorum corporis humani, praecipue secernentium partes, constituentes proximas. 8vo. Tubingae, 1815.

in different organs, a different determinate quantity, with the greatest excess of alcohol. Thus alcohol, sp. gr. 0.809, extracted from 100 parts of washed and dried fibre, 4 parts of osmazom, from the dried albumen 12, and, from the dried gelatine 30. Hence, Dr Wienhokt, to get the whole of the resinous osmazom, digested the whole substance of the organ dried for six weeks in a heat not exceeding 122°. On cooling, this tincture deposited the adipose matter dissolved in it; after which it furnished, by evaporation, the true animal resinous extract, or osmazom.

When the osmazom, obtained by evaporating the tincture extracted by alcohol from dried animal organs, is boiled with water, the decoction is coloured, and gives a precipitate with tannin and acetate of lead; and since, inversely, the watery extract of animal matters yields osmazom to alcohol, this substance appears in its nature to resemble a gum-resin, in which the constituents soluble in water and in alcohol are not merely mechanically mixed, but, when separated by different menstrua, lose their attraction for each other. The resinous osmazom, when long boiled in water, softens, and, except a small unchanged residuum, breaks down into white adipose flocculi, which, by drying and melting, assume their former form. If now again dissolved in alcohol, it gives a copious precipitate with tincture of gall-nuts and solution of acetate of lead, nitrate of silver and corrosive sublimate. In respect to taste, as being more acrid, or mild, or greasy, and to greater or less capability of being dried, the alcoholic osmazom differed according to the diversity of organs from which it was extracted, preserving, however, always its peculiar characters. The abdominal viscera contained the greatest quantity of osmazom; the lungs less. Even the blood destined to furnish the matters of secretion, is different from blood which returns from organs which have performed the functions of secretion, and from parts which do not secrete, in regard to the quantity of pure resinous osmazom which they contain. Dried blood taken from the vena portarum gave 10 *per cent.*; from the vena cava 8; and from the left cavity of the heart only 5.

Osmazom seems to develope itself from albumen. Dr Gmelin found, that the papillary substance of the kidneys, the immediate organ of secretion, gave more osmazom, and also more albumen, than the cortical part. Dr Wienholt found in the pancreas the albumen almost converted into osmazom. The infusion of this organ, prepared with cold water, furnished very little coagulated albumen by boiling, which remained suspended in the liquor. It could not be made to gelatinize; had a pungent taste, and gave, with acetate of lead and infusion of galls, a copious flocculent precipitate, resembling, except in being precipitated by galls, the substance which Hatchett and Bostock call mucus. Now as, according to the experiments of Gehlen, even the albumen, when boiled with a strong decoction of bones, and Dr Gsell got from cow bones 1.736 parts of impure osmazom, and from calf bones 5.555, loses its property of coagulating; and as gelatine of muscles recovers its property of gelatinizing in the cold, only after the osmazom has been removed, it appears that what is called mucus must be considered as a combination of albumen and gelatine with osmazom. Whether the true mucus of the mucous membranes is a similar combination, or of a nature altogether different, deserves further inquiry. The former supposition is supported by the action upon it of heat and cold.

The recent pancreas furnished by compression only 1.56 *per cent.* of dried fibre, 0.43 of albumen, but 10.93 of dry watery extract. From the dried watery extract of the pancreas, alcohol dissolved 45 *per cent.* of osmazom. The pancreas, then, by its analysis, acquires an importance among the secretory organs, which physiology had not previously been able to give it. Also, in other excreting organs, the quantity of the albumen indicated the quantity of matter they naturally secrete in a fluid form, and nearly the quantity of their osmazom. The liver, spleen, and kidneys, contained more osmazom than the lungs, these more than the true skin of the back; and, again, the heart and muscles, which act much, more than the cellular substance. But the quantity of albumen did not always correspond exactly with the quantity of alcoholic osmazom found in the entire organ.

The phenomena of coagulable exudations in the trachea and intestinal canal, of coagulable urine in many cases of dropsy, of uncoagulable mucus in so many morbid excretions, of clammy sweat, &c. shew, in Professor Authenrieth's opinion, that the proportion of albumen to osmazom is of importance in pathology, and perhaps calculated to explain the obscure doctrine of the productions of fever, and of critical evacuations.

Fibrine, the proper substance giving form to the organs, appears to arise by imperceptible degrees from the albumen, which, on the other hand, furnishes the principal matter for the osmazom. If an organ be treated by compression in cold water, the albumen in the first portion of water is more dissolved, but, in each successive portion, becomes less so, till it seems only to be suspended. But, in fact, it is only in the blood that the albumen appears to be perfectly dissolved; and in the solid organs it holds a middle place between this and proper fibrine capable of an emulsion-like suspension in water, approaching more or less to the one or the other. The more albumen is contained in an organ, the more perfectly can it be separated by its solubility in cold water from proper fibrine; and the less albumen there is present, the more it approaches fibrine in its nature, and is the more imperfectly separated from it. Skin and cellular substance contain the greatest quantity of fibrine; and of the organs examined (the brain was not examined), the excreting organs of the abdomen, the heart, muscles, and lungs, occupied the middle place.

Proper gelatine also seems to belong more to the proper solid substance of the organs than to the matters which are the sources of the excretions. From several organs cold water extracted only the substance called mucus, which does not congeal, and the proper gelatine was only extracted afterwards by decoction as in the skin, one hundred parts of whose gelatine, when dried, only furnished eight of osmazom, and two of adipocerous matter, and in the cellular substance. But even the decoction of other organs, as of the lungs and pancreas, did not congeal, either on account of the presence of too much osmazom, or because they contained no real gelatine. In general, the watery extract of the various organs presented an almost imperceptible series from true gelatine to mucus, as indicated by the absence or abundance of a precipitate with acetate of lead, and abundance or absence of a precipitate with tannin; and also a gradation to mucus from albumen which was also generally present, and indicated by a precipitate with corrosive sublimate.

As in the same proportions the dried watery extracts also furnished more alcoholic osmazom, the question arises, whether the natural fluids contain gelatine, which has been lately denied with respect to the blood; or, whether gelatine is only to be considered as a constituent of the soft solids? and it is worthy of a fresh investigation; for the substance occurring in fluids not coagulated by heat, and not congealing when sufficiently concentrated, and which has been considered as mucus, must, in Professor Authenrieth's opinion, be deprived of its osmazom by alcohol, in order to determine whether its basis be albumen, as in most cases, or gelatine.

The adipose substance resembling spermaceti, which is deposited from the tincture of animal substances merely by cooling, is harder, and less coloured in the organs containing most fibrine, and in the others is more coloured, and more approaching to alcoholic osmazom. It resembles gelatine, as the experiments of Dr Gsell, and those of other chemists upon the brain, indicate, in belonging rather to the solid substance of the organs than to the excretory matter, although it also partly degenerates imperceptibly into osmazom. From the liver alone, water extracted a substance of this kind, which, after the separation of the albumen by boiling, separated from the solution by cooling, in the form of a clear yellowish green, slightly tasted adipose substance, and which, like the similar substance extracted from other organs by alcohol, was not precipitated from its solution in warm alcohol by any of the usual reagents. Alcohol extracted this substance, or, according to some chemists, formed it, in very various proportions from different organs; but, in general, it was in proportion to the quantity of albumen present.

Colouring matter exists in combination with each of the constituents of animal substances. Often it seems to be formed during the drying, as the yellow bile of animals becomes green in the air, and as the greyish white chyle of the horse becomes blood red. Thus, the fibrine extracted from the colourless pancreas becomes, on drying, greyish black; the albumen of the testicles, of the mucous coat of the stomach, and of the muscles, acquires also this colour; while the fibrine extracted from the lungs, as well as their albumen, is black, even when still moist.

The following tables shew the results of the analyses of animal organs made by Dr Wienholt.

TABLE shewing the quantity of fibrine, albumen, and watery extract, obtained from various organs in their recent state. The watery extract expresses the sum of those obtained by cold and hot water united.

				Solid Constituents.		*Water.*	
	Fibrine.	Albumen.	Watery extract.	by Analysis.	by exsiccation.	by Analysis.	by exsiccation.
Skin,	30.42	1.43	7.11	38.96	41.98	61.04	58.02
Cellular substance,	17.08	0.83	2.51	20.42	20.83	79.58	79.17
Heart,	8.75	8.33	3.33	20.42	21.04	79.58	78.96
Lungs,	4.86	10.51	1.63	17.00	19.24	83.00	80.76
Muscle,	6.04	12.59	3.16	21.79	24.44	78.21	75.56
Villous coat of stomach,	2.92	8.41	2.00	13.33	15.08	86.67	80.00
Testicle,	2.08	7.11	2.16	11.35	14.17	88.65	85.83
Kidney,	2.78	12.50	2.08	17.36	18.01	82.64	81.98
Pancreas,	1.56	0.43	10.93	12.92	16.04	87.08	83.96
Spleen,	2.08	14.30	4.03	20.41	23.23	79.59	76.77
Liver,	2.71	22.60	1.29 and of adipose matter 1.39	27.99	34.10	72.01	65.90
Blood from cava inferior,	0.85	25.02	0.22	26.07	27.15	73.93	72.85

TABLE of the constituents of the substances dried. The quantity of fibrine, albumen, and gelatine, is obtained from the preceding table by calculation. The alcoholic extract expresses that obtained by alcohol from the organ dried entire, so that its numbers belong to a different series of centesimal parts. In the column expressing the sum of the alcoholic extracts united, the first is obtained directly by their addition, the second indirectly.

	Fibrine.	Albumen.	Watery extract.	*Alcoholic Extract.*		*Sum of Alcoholic Extracts.*	
				True.	Adipose.	Addition.	Calculation.
Skin,	78.08	3.69	18.24	8	2	10	17
Cellular substance,	83.67	4.08	12.24	10	1	11	16
Heart,	42.86	40.82	16.33	14	1	15	12
Lungs,	28.57	61.87	9.55	13	1	14	12
Muscle,	27.71	57.74	14.52	15	3	18	20
Villous coat of stomach,	21.87	65.00	13.13	20	7	27	30
Testicle,	17.01	64.04	19.26	20	3	23	29
Kidney,	16.00	72.00	12.00	20	2	22	23
Pancreas,	12.29	2.95	84.74	26	7	33	36
Spleen,	10.24	70.05	19.69	20	5	25	25
Liver,	9.67	80.74	4.62 and adipose matter 4.96	40	14	54	58
Blood from cava inferior.	3.20	96.00	0.80	8	trace	8	4
In the following the alcoholic extracts are only stated:							
Blood from the left ventricle of the heart,				5	trace	5	3
Blood from vena portarum,				10	0	10	7
Villous coat of jejunum,				25	3	28	25
———— of colon,				18	4	22	37
Fibrine of muscle,				4	1	5	10
Albumen of muscle,				12	7	19	27
Watery extract of muscle,				30	2	32	32
Warm watery extract of skin,				8	2	10	17
Cold watery extract of pancreas,				45	5	50	48

TABLE of precipitates obtained from a solution of 100 parts of dried extract, by different reagents.

	Acetate of lead.	Tannin.	Pronitrate of mercury.	Corrosive sublimate.
Isinglass, -	trace	139	37	trace
Warm extract of skin,	trace	126	71	trace
Warm extract of pancreas,	18	62		
Warm extract of cell. subst.	22	71	80	44
Villous coat of stomach,	19	52		
Muscle, - -	24	55	59	20
Spleen, - -	27	59	83	15
Cold extract of pancreas,	17	33	84	17
Lungs, - -	33	58	78	18
Cold extract of skin,	17	28		
Testicle, - -	19	31		
Liver, - -	34	49	73	26
Cold extract of cell. subst.	27	33		
Blood from cava inferior,	31	37		
Kidney, - -	46	trace	68	trace

As, according to Dr Gmelin's analysis, the proportions of fibrine, albumen, and watery extract in the human kidney were as 2.78, 3.84, and 3.47, and as both experimenters proceeded in exactly the same method, the greater proportion of albumen found by Dr Wienholt is only explicable, in Professor Authenrieth's opinion, from the circumstance that he included the substance of the kidney, after being mashed, in a linen bag, and squeezed it in water, and expressed the fluid, by which means a part of the substance in the state between fibrine and albumen was mixed with the fluid, and was added to the amount of the albumen, and deducted from that of the fibrine; while Dr Gmelin merely washed the kidney cut in pieces, and laid upon a linen filter. On the other hand, the larger proportion of watery extract or impure gelatine which Dr Gmelin obtained, is to be ascribed to his having been obliged to employ a human kidney in a less fresh state, and when the acid fermentation already begun had converted a part of the albumen into a state resembling gelatine. This is rendered probable, because he got less watery extract and more albumen from the kidneys of animals which he examined perfectly fresh.

So much do the most trifling circumstances alter animal substances obtained by analysis, and so important is it to compare only experiments made under perfectly similar circumstances, in order to obtain certain, but, after all, only relative results.

IV.

A Compendium of Medical Practice, illustrated by Interesting and Instructive Cases, and by Practical, Pathological, and Physiological Observations. By JAMES BEDINGFIELD, Surgeon, late Apothecary to the Bristol Infirmary. London, 1816. pp. 309.

THIS is really a better book than its title led us to expect. *Compendiums of Medical Practice* have in general very few attractions for the scientific and zealous student. They may evince industry and judgment in the compiler, but they are generally destitute of originality either of thought or observation. They may be very useful books by assisting the memory of the unexperienced practitioner, or as a repertory to consult occasionally while works of a higher description are not at hand; and they are sometimes excellent books in the language of the booksellers, or sell very readily, and are, therefore, profitable to them. It is to this cause that we are disposed to attribute the affixing of the title of Compendium to the volume before us, and we regret it, for, in fact, although it notices a great number of diseases, it cannot be called, and will not be considered by purchasers, as a compendium; while, on the other hand, by attempting to assimilate the work to the title, it is unnecessarily lengthened, not only by the introduction of Dr Cullen's definitions at the head of the chapters, and of many chapters which had much better been omitted, but it has unfortunately prevented the author from considering his materials in that point of view in which alone they are valuable.

It is as an epitome and record of the medical practice in the Bristol Infirmary during the last five years, that the volume before us deserves notice, and, therefore, we regret especially, that the author had not confined his views to this one object, and employed the means, which he undoubtedly possessed as apothecary to the institution, to render it as perfect as possible. A monography, if we use the term, of the hospital would have been a valuable addition to this volume, by which we mean some account of the building itself, and any thing remarkable in its arrangement, mode of heating or ventilation; the description of patients admitted; their classification; regulations in regard to their conduct, as affecting their health; the diet tables; the number and duties of the officers and servants; the ordinary and extraordinary expences of the establishment, &c. &c. Information concerning these circumstances is of great importance, both to those projecting an establishment of the kind, and as furnishing data by which those interested may judge whether existing hospitals be well managed, or may be improved. In a professional point of view, some of these circumstances are intimately connected with the medical treatment. We especially regret that our author has not thought fit to publish a regular series of the periodical reports of the patients admitted, with the diseases under which they laboured, and their events; to which should be added, a statement of the patients affected with other diseases while in the hospital.

Having stated what we think might have been added naturally, and with advantage to this volume, we now proceed to state what it actually contains. It consists chiefly of a very compendious history of the diseases which Mr Bedingfield observed in the Bristol Infirmary, with the effects of the treatment employed. On some diseases the remarks are very concise and general, and convey no information; but, on other occasions, they are extended to considerable length, and sometimes contain bold and original propositions, and are illustrated by the history of individual cases, and an account of the appearances found on dissection. The arrangement is very faulty. This, however, is of little importance in a volume of clinical observations.

The first section treats of some affections of the scalp, hydrocephalus, apoplexy, hemiplegia, phrenitis, inflammation of the pia mater, abscess of the brain, epilepsy, chorea, and tic douloureux, and concludes with a chapter on the functions of the brain.

The following account of the treatment of chorea is worth extracting, because it is so different from that which has been found so successful since it was first recommended and explained by our experienced friend Dr Hamilton, senior. We do not doubt the accuracy and truth of Mr Bedingfield's report; it only adds another to the many proofs we have, that the same diseased action may be interrupted and overcome by very different means.

> “ Upwards of forty cases of this disease have presented themselves at this infirmary within the last five years. With one exception they were all cured by the oxid of zinc, given in the manner recommended for epilepsy; in fact, so speedily and decidedly did this remedy put a stop to the disease, that I cannot avoid regarding it as a specific for it. Why it has so frequently failed in the hands of other practitioners I cannot tell; probably, however, the failure arose from its not having been given with sufficient regularity, and in sufficient doses to excite nausea. In some patients this oxid cured the disease without

producing a nauseating effect, but these cases were of short duration, and not very violent.

"Perhaps tartarized antimony would cure the disease with equal certainty, but it is a less manageable medicine, and the nausea it induces is of a more distressing nature. When the cases were of extreme obstinacy and violence, the cold shower-bath was directed in conjunction with the zinc, and sometimes with advantage. When the disease seemed to depend upon the retention of the menses, electricity was found useful. Occasional purgatives were employed, but I do not recollect any case in which constipation formed a prominent symptom.

"The subjects of this disease were mostly between the ages of seven and nine, and twelve and fifteen years; in one case only had the patient reached her eighteenth year. This patient was more decidedly benefited by electricity than any other.

"The disease sometimes arose spontaneously; in by far the greater number of instances, however, it was induced by the children having been frightened. Retention of the menses formed another frequent exciting cause. The case which resisted the long-continued exhibition of the oxid of zinc was finally cured by the following combination:

"℞ Tinct. Opii dr. ij. Liq. Ant. Tartariz. dr. vi. *M.*

"Of this, thirty drops were taken three times a-day.

"The patient, a boy, was twelve years of age." p. 51, 52.

Surely the author has ascribed too much to retention of the menses as a cause of disease in patients most of whom were not fifteen years old. We have seen chorea become very frequent in a seminary for the education of girls, by imitation, and its progress checked by separation. We cannot congratulate our author on being more successful than his predecessors in his attempt to explain the functions of the brain, which is quite misplaced in a practical volume.

The second section relates to the diseases of the lungs, trachea, and fauces, with which are associated, incongruously enough, ophthalmia, dentition, and toothach. The following mode of exhibiting an anodyne in the last affection is new to us, although smoking tobacco is very common.

"The toothach is sometimes permanently relieved by the application of the fumes of henbane seed. The smoke may be directed to the affected tooth by being drawn through a tobacco pipe; this method, however, will upon some persons produce extreme nausea. The following process will be found more eligible and equally efficacious.

"Put from one to two drachms of the seed upon a red hot iron, or some lighted cinders, and immediately cover them over with a basin. As soon as you suppose the seed to be consumed, and the vessel impregnated with the fumes, place it upon its bottom, and fill it with boiling water. The person affected with the toothach is then to inhale the vapour for twenty minutes or half an hour, a blanket or some other covering being previously thrown over the head and shoulders to prevent its escape. It will be advisable to go to bed immediately afterwards, as it often induces profuse perspiration." p. 77.

The cases of ulceration of the pharynx, larynx, and trachea, are interesting. They were all chronic, and terminated fatally; but we must refer our readers to the volume itself for the details. The following proposition, however, we quote, not with a view of recommending its adoption, but on account of its originality.

> " Query? Would it be advisable to make an opening into the trachea or larynx, and apply such substances to the ulcer as would have the effect of exciting a healthy action upon its surface? I have seen several ulcers upon the surface of the body, bearing a very strong resemblance to ulcers of the larynx, cured by one or two applications of nitrated silver.
>
> " That this is a hazardous operation, I am ready to admit, but perhaps the fatality of the disease fully justifies its being resorted to. Ample experience has shewn, that, if the disease be left to itself, or combated only by internal remedies, it will uniformly prove, sooner or later, fatal." p. 92, 93.

When treating of hæmoptysis, our author states his objections to the use of digitalis strongly, and quotes two cases in which he considers it as the cause of death. The form in which it was exhibited was the infusion, which, as well as the decoction, we have always found very uncertain in point of strength, and therefore dangerous. In the case of empyema related, the operation was unsuccessfully performed.

Diseases of the heart are treated of in the third section. What would some of the practitioners of the old school think of the following practice?

> " A case of carditis has fallen under my observation, in which the whole arterial system seemed to participate. A violent and rapid pulsation could be seen, as well as felt, in its minute ramifications. It was peculiarly distinguishable in the labial and digital arteries. This man lost, in twelve days, two hundred and sixty ounces of blood. For eleven days in succession, twenty ounces were abstracted, and on the twelfth, forty at one operation. From this last bleeding he derived more advantage than from all those which preceded it. Syncope was induced by it, and a permanent diminution in the force of the heart and arteries was effected. He recovered more speedily than could reasonably have been expected, and is at this time in perfect health.
>
> " This man sometimes perspired so profusely, that it became necessary to place vessels under the bed to catch the fluid as it trickled through the bedclothes and sacking." p. 133.

From the fourth section, which is appropriated to the diseases of the stomach, intestines, and abdominal viscera, we shall only quote the following account of the effect of ardent spirit upon the stomach, as it is the result of frequent observation.

> "Upon the first arrival of the fleets from the West Indies, men are frequently brought into this hospital in a state of total insensibility produced by drinking rum. The precise quantity swallowed can seldom be ascertained, as it is procured by boring holes into the casks, and sucking the liquor through straws or small reeds.
>
> "The degree of danger arising from intoxication may be best estimated by the irritability of the iris. If the iris retain its contractile power, the patient will generally recover, however overpowered his senses may be; if, on the contrary, it remain in a state of extreme dilatation when a strong light is directed upon it, but a feeble hope of recovery must be entertained.
>
> "The paralysis, or immovable dilatation of the iris, is, for the most part, attended with apoplectic stertor, laboured and imperfect respiration, and a slow oppressed pulse. The power of the stomach is also lost, the strongest emetics being insufficient to excite it into action. Next to the insensibility of the iris, want of energy in the stomach indicates the greatest danger.
>
> "*Treatment.*—We must use all our efforts to excite vomiting. Ipecacuanha and sulphate of zinc or copper, in large doses, should be given, and the patient compelled to swallow as much warm water as possible. The expulsive force of the stomach should likewise be solicited by irritating the fauces with a feather
>
> "If we can make the stomach eject its contents, the patient may be considered out of danger,
>
> "As soon as re-action in the system takes place, he should be put under a copious shower-bath. The application of cold water will often restore him instantaneously. On the following day, if any preternatural fulness of the vascular system be present, blood should be abstracted from the arm, and an active purgative administered.
>
> "Venesection, in the early stages of the affection, seems to be especially indicated, as there is always a considerable determination of blood to the brain; I have, however, seen it employed to a great extent without any manifest advantage; more frequently it has proved injurious. From all that I have observed, I am arrived at the following conclusions: If we can excite full vomiting, we shall save our patient; if we cannot, he will have a better chance of recovery if we leave him to the operations of nature, than if we bleed him, agitate him, endeavour to make him walk, or in any other way disturb him.
>
> "I have had several opportunities afforded me of examining the brains and stomachs of persons who died intoxicated. The appearances I have met with have been uniformly the same. The vessels of the brain were gorged with blood, and a quantity of serum deposited in the lateral ventricles. In the stomach I have never been able to

discover any deviations from a healthy state, but a quantity of the pernicious spirit is generally to be detected.

"The brain of a person who was destroyed by a large dose of laudanum exhibited the same marks of increased vascularity; some serum was effused within the ventricles, and some of the narcotic was likewise found in the stomach.

"The practice which has been here recommended, and successfully adopted, for the relief of persons under the influence of ardent spirit, I conceive to be equally applicable to those who have taken opium, but my actual experience in this respect has been very limited." p. 187—190.

We have prolonged this quotation to include the last sentence, in order to caution our readers against being misled by it, to neglect the agitation necessary to prevent persons under the deleterious effects of laudanum from falling asleep.

The remaining sections treat of the diseases of the pelvic viscera, of affections of the spine, of febrile diseases, and of general affections; but we have already extended our quotations to a sufficient length.

V.

An Analysis of the Mineral Water of Tunbridge Wells, with some Account of its Medicinal Properties. By CHARLES SCUDAMORE, M. D. Member of the Royal College of Physicians, of the Medical and Chirurgical Society of London, &c. &c. London, 1816. 8vo. pp. 58.

We have perused this little pamphlet with great interest. It contains some good and original observations. Dr Scudamore found the Tunbridge water to contain in the gallon, carbonic acid, 8.05 cubic inches; oxygen, 0.5; and azote, 4.75; in all 13.3; and of solid contents, muriate of soda, 1.25; sulphate of soda, 1.47; muriate of lime, 1.54; muriate of magnesia, .29; carbonate of lime, .27; oxide of iron, 2.29; traces of manganese, insoluble matter, .44; loss, &c. .18; in all, 7.68 grains. The temperature of the water is uniformly 50°. The supply of water is more plentiful, but it contains a smaller proportion of iron in spring than in autumn. We pass over the observations on the medicinal properties of the water, which are very judicious, because we are anxious to retain room for the following quotation from Dr T. Thomson's appendix, which is perfectly conclusive as to the refutation of Dr Lambe's opinion concerning the supposed evils arising from the presence of *very minute* quantities of lead in our common drink.

> "These examples I consider as quite sufficient to establish the fact, that minute quantities of lead may be detected in all waters which pass through leaden pipes. I only know one exception to this general law; and it is an exception by no means favourable to the purity of the water which constitutes it. I allude to the water of the river Thames, in which I have never been able to detect any lead, though it had been allowed to flow in leaden pipes. Whoever will consider the situation of this river, and the immense population along its banks for so many miles, must at once perceive the prodigious accumulation of animal matters of all kinds, which must be constantly making their way into it. These matters are, no doubt, the cause of the putrefaction, which it is well known to undergo at sea; and of the carburetted and sulphuretted hydrogen gases which are evolved from it. These animal matters prevent it from dissolving lead, or from holding the carbonate or oxide of that metal in mechanical suspension; because they have the property of combining with it, and forming with it a bulky insoluble precipitate. If you add nitrate of lead to Thames water, you will find, that it becomes milky, and that a white powder falls to the bottom, which dissolves without effervescence in nitric acid. It is therefore a combination of oxide of lead with some animal matter. Thus it is the impurity of Thames water that prevents it from containing lead. Probably hard waters, containing sulphate of lime in solution, may also be free from lead. But with these exceptions, we may lay it down as a general fact, that all waters which pass through leaden pipes, or which are kept in leaden cisterns, contain small particles of carbonate of lead. But it is evident from Edinburgh water, Hampstead water, Bury St Edmond's water, &c., that these particles are present in too small quantities to be in the least injurious to the human constitution."

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the* PUBLIC DISPENSARY, *near Carey-Street, London, from May* 31*st to August* 31*st **1816.**

Acute Diseases.

	No. of Cases.		No. of Cas
Febris	36	Cholera	7
—— infantum remittens	4	Enteritis	1
Apoplexia	1	Peritonitis	7
Hydrocephalus	2	Dysenteria	4
Cynanche	3	Erysipelas faciei	1
Epistaxis	2	Variola	1
Catarrhus	69	Varicella	1
Peripneumonia	13	Rubeola	12
Pleuritis	7	Scarlatina	6
Pertussis	3	Rheumatismus	15
Hepatitis	1		

Chronic Diseases.

	No. of Cases.		No. of Cas
Cephalæa	31	Enterodynia	19
Vertigo	16	Colica pictonum	1
Dyspnœa organica	1	Constipatio	1
Catarrhus chronicus	18	Diarrhœa	19
Palpitatio	5	Tænia	2
Hæmoptysis	6	Ascarides	3
Phthisis	28	Marasmus	12
Dyspepsia	29	Hæmorrhois	6
Gastrodynia	16	Splen magnum	1
Pyrosis	3	Dysuria	3
Vomitus	3	Hæmaturia	1
Hæmatemesis	4	Nephralgia	2
Hepatalgia	4	Hysteralgia	4
Icterus	6	Prolapsus uteri	2

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Amenorrhœa	13	Struma	2
Dysmenorrhœa	1	Dysphagia	1
Menorrhagia	11	Lichen	2
Leucorrhœa	10	Prurigo	1
Blenorrhœa	1	Psoriasis	3
Hydrops	4	Urticaria	5
Ascites	1	Erythema	3
Anasarca	3	Purpura	2
Rheum. chron.	34	Impetigo	5
Lumbago	5	Porrigo	15
Pleurodyne	3	Ecthyma	4
Dolor mammæ	1	Scabies	20
Chorea	1	Herpes zoster	2
Epilepsia	4	Eczema	2
Melancholia	1	Rupia	2
Asthenia	17	Aphtha	1
Hysteria	6	Acne	1
Hemiplegia et Paralysis	4		

The three *summer* months have exhibited very little of that character this year; as there has scarcely been one hot day during the whole of that period, and very few without more or less of rain: the season, in fact, having been latter by at least a month in all its productions than is usual, and the thermometer uniformly low.

Whence the diseases, which have presented themselves at the Dispensary, have been also of a mixed character. The derangements of the digestive organs, and the diseases principally depending upon them, have therefore been rather more numerous than in the winter months; whilst the occurrence of upwards of fifty cases of rheumatic affections, and twenty of acute attacks in the chest, indicate a state of atmosphere rather ungenial. Among the diseases that are principally referable to gastric derangement, not only the large proportion of vertiginous cases and cephalæa, but the long list of cases under the head of Febris are also chiefly to be enumerated; for most of them assumed the type of slight fever, accompanied by disturbed abdominal function, with little disorder of the head, and were of slight duration after a proper regulation of the chylopoetic organs. A small number of them, however, which occurred in the very filthy courts about Saffron Hill, occupied almost exclusively by Irish labourers and their families, assumed a typhoid character, and spread, apparently by contagion, so that twelve patients were removed from that quarter to the House of Recovery in

Gray's Inn Lane in the course of a fortnight in the early part of the present month. By this speedy removal, assisted by the white-washing and fumigation, which that institution practices in the habitations of the patients when removed, the progress of the fever appears to have been completely arrested. T. B.

London, Aug. 31, 1816.

Letter from Mr GRAINGER, *giving an account of a Ball found in the Heart of a Buck.*

On August the 31st past, a buck that was remarkably fat and healthy in condition, was killed in Bradby Park, and, on opening him, it was discovered that, at some distant time ago, he had been shot in the heart; for *a ball was contained in a cyst in the substance of that viscus*, about two inches from the apex. The surface of the cyst had a whitish appearance. The ball weighs 292 grains, and was beat quite flat. What led to the discovery of the ball was the unusual circumstance of a firm adhesion of the heart with the pericardium to the ribs of the left side. One of the ribs at the place of the adhesion, bore marks of having been fractured. Mr Richardson, the park-keeper, who opened the animal, and communicated the account to me, is of opinion that the ball had struck some hard substance before entering the body of the deer, as it could not otherwise have become so flat. In the Second Volume of the Medico-Chirurgical Transactions, is published an extraordinary case of a soldier who survived 49 hours after receiving a bayonet-wound of the heart; but the above particulars of a gunshot-wound of the heart will afford a still more striking example of the great extent to which this vital organ may sustain an injury from external violence, without its functions being immediately destroyed, or even permanently impaired. The recovery from an accident of this nature having happened to an animal of an inferior order to that of man, can in no respect materially vary the *physiological import* of the fact; therefore this authentic statement of it may be worthy of a place in that department of your Journal allotted to compendious articles of intelligence.

Burton-upon-Trent, September 7, 1816.

Observations on some Causes of Deafness, with the Means of Removing them. By Professor AUTHENRIETH of Tubingen.

THE closing of the Eustachian tube, which at last causes loss of hearing, so difficultly removed by syringing the tube, and so imperfectly remedied by piercing the tympanum, almost always arises from a catarrhal cause. Twice I have seen this closure occur so frequently at the same time, that one would have been almost justifiable in calling it epidemic. After moderating the determination of blood to the head, and the catarrhal affection, by the usual remedies, the best means of obviating the permanent closing of the tube, even after the hearing has been lost for some weeks, and the forcing of air into the tube by expiring strongly with the mouth and nostrils shut, has been tried in vain, is to excite and maintain for several days, or even weeks, an artificial inflammation of the pharynx, attended with a great discharge of mucus. It acts as an evacuant remedy upon the neighbouring mucous membrane, still turgid with the stagnant fluids produced by the catarrhal inflammation.

Two or three drachms of mezereon bark, boiled down with two ounces of honey and enough of water, to ten ounces of decoction, to which as much caustic ammonia is added as to give the mixture a biting taste upon the tongue, which requires generally from half a drachm to a drachm, is to be used as a gargle every two hours, so as to excite slight inflammation very slowly. If, therefore, upon the first trial, it should seem to act too quickly, it must be diluted with more water, and employed less frequently. In old people, still greater caution is requisite, as in them the inflammation excited is more obstinate, and is apt to be unexpectedly aggravated.

The hearing is frequently not restored until after the inflammation has again ceased.

In the bodies of almost all old people, there is found in the innermost part of the meatus auditorius externus, a firmly attached lump of indurated ear-wax, which, in old age, acquires a disposition to crystallize partly in an earthy form. The ear-picker only scratches off its outer surface. This lump is the cause of the dulness of hearing which occurs slowly in healthy old people. We have as yet no very convenient method of removing it.

The tympanum of the ear is frequently destroyed in consequence of the suppuration of the external meatus auditorius; and of the small bones of the ear, the stirrup only is left which continues to shut the fenestra ovalis. But the entrance of the cold external air into the cavity of the tympanum, stimulates the membrane lining it. Moist air swells it hygroscopically. Then undulations, which would have excited vibrations in the internal parts of the ear, even without the tympanum, or small bones, are suffocated in it, and such patients become at that time perfectly deaf. The wearing of cotton within the ear, during such weather, preserves from pain, but, on the other hand, renders the feebly observed sounds still more obscure. At these times, it is of use to wear in the meatus an artificial tympanum, consisting of a short tube of lead pressed into an elliptic form; upon the inner end of which the membrane of the swimming bladder of a small fish had been previously stretched when wet, and varnished over after it had become dry.

Extracts from a Letter from a Physician in London.

1. *Taliacotian Practice.*

Mr Carpue, who succeeded so admirably in the brave Captain Latham's and another officer's cases, has produced a great sensation among the unprofessional as well as professional public. Trials are making, and more are in contemplation, to supply the loss of other parts besides the nose. To what extent the art of engraftation may be practised, is not yet definable; but in the meantime, applications are made from *defective persons* for the supply of parts; of course they must be *second-hand* organs, which it would be ludicrous at present to mention.

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2. *Fatal Hæmorrhage from Drawing a Tooth.*

A man had a tooth extracted in I believe the usual circumstances; a considerable hæmorrhage ensued. The discharge was attempted to be stopped by the well-known means, but in vain. The actual cautery was next employed; it succeeded for a time only; the repetition failing, the carotid artery was next tied. This measure also failed under the hands of one of the most skilful surgeons in London, from whom every thing to be accomplished by art was to be expected, but the patient died from the discharge. Was the blood in this case coagulable?

---

3. *Fatal Hæmorrhage from Scarifying.*

On scarifying and cupping between the shoulders in the usual way, the bleeding did not stop as was expected. The discharge continuing, the known measures were taken, but without success. It was found *that the blood did not coagulate*, and this uncoagulable state was the cause of the subject dying from the evacuation.

---

4. *Inflammation of the Interior Coat of Vessels.*

I have seen the disease seemingly of the *vasa vasorum* of the interior coat of the large blood-vessels several times like inflammation described by Mr Hodgson; but it attended other well-known diseases, and I could not distinguish any peculiar symptoms referable to this inflammation-like state of the blood-vessels. Is it a species of erysipelas?

---

5. *Eau Medicinale.*

The evidence of the infusion of colchicum in wine being the renowned nostrum *eau medicinale*, is increasing, but not the evidence of its efficacy. It will, in a few years, be a most curious piece of history to account for the present evidence in its favour, when its fame shall be buried (as I believe) in the tomb of all the Capulets.

6. Mr SAMUEL YOUNG continues to practice in cancerous cases, upon the principle of pressure, in many cases with great relief, and in some with entire success; at least more benefit has been produced by his than former modes of treatment.

On the 1st August, the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine on the following gentlemen, after having gone through the appointed examinations, and publicly defended their respective inaugural dissertations:

Of SCOTLAND.

Alexander Hamilton,	*De Synocho Castrensi.*
Adam Hunter,	*De Cruditate.*
James Johnstone,	*De Opio.*
John Richardson,	*De Febre Flava.*
John Anderson,	*De Pneumonia.*
Hugh Macfarlane,	*De Diabete Mellito.*
Alexander Torrance,	*De Febre Puerperarum.*
Joseph James Forbes,	*De Nostalgia.*
Alexander M. Geddes,	*De Fistula Lachrymali.*
Stephen Wight,	*De Gastritide.*
James Harvey,	*De Febre, vulgo dicta Biliosa remittente.*
Zachariah Sillar,	*De Dyspepsia.*
James Cowan,	*De Læsione partis cervicis anterioris.*
James Sibbald,	*De Pneumonia.*
Archibald Skirving,	*De Sanguinis detractione in morbis curandis.*
David Baird,	*De Sanguinis missionis natura et usu.*
Geo. Hume Weatherhead,	*De Diagnosi inter Erysipelas, Phlegmonim et Erythema.*
David Ramsay,	*De Cerebri Concussione.*
Walter Adam,	*De Catalepsi.*
Ebenezer Clarkson,	*De Hepatitide acuta.*
William Black,	*De Pneumonia.*
Hugh Guthrie,	*De Hydrocephalo acuto.*
Andrew Anderson,	*De Dysenteria.*
David Hastie,	*De Hepatitide acuta.*
Moses Stephen Buchanan,	*De Ciborum Concoctione.*
William Fraser,	*De Dyspepsia.*
John Dick,	*De Concoctione Ciborum.*
John Couper,	*De Acidorum Muriatici et Oxymuriatici constitutione.*

Dugald Mackellar,	*De Amaurosi.*
James Simson,	*De Vitiis Variis Genu.*
Bute Stewart,	*De Febre Puerperarum.*
William Howison,	*De Vaccina.*
Roderick Macleod,	*De Tetano.*
Thomas Butter,	*De Asthmate.*
David Craigie,	*De Rationibus quæ Animalibus, cum temperie medii in quo versantur intercedunt.*
Archibald Young,	*De Phthisi Pulmonali.*
James Wylie,	*De Hydrencephalo acuto.*

From ENGLAND.

Aaron Wall Davis,	*De Hydrothorace.*
John Fletcher,	*De Rei Medicæ Vissicitudinibus.*
Tho. Southwood Smith,	*De Mente Morbis Læsa.*
Richard Moulson,	*De Chorea.*
C. R. Goring,	*De Apoplexia Sanguinea.*
John Whiting,	*De Sanguine Ægrorum.*
Bartholemew Wake,	*De Arsenico.*
William Beilby,	*De Animalium Calore.*
Frederick Dawes,	*De Cynanche Laryngea.*
Darnell Bulman,	*De Calore Animali.*
George Swiney,	*De Insania.*
Samuel Burrows,	*De Carditide acuta.*
Charles Charleton,	*De Animi quorundam Pathematum vi in corpore.*

From WALES.

John Howell,	*De Dysenteria.*
Edward Howell,	*De Asthmate Spasmodico.*

From IRELAND.

Richard Warren,	*De Podagra.*
James Willett,	*De Ischuria.*
John Hawkins Divir,	*De Dysenteria.*
Robert Martin Davis,	*De Morbo Coxario.*
James Sayers,	*De Pneumonia.*
William Crofts,	*De Cancro, Buboneque Mercuriali.*
Michael Macnamara,	*De Abortu.*
Hyacinthus White,	*De Oculo humano, et Cataracta.*
Dionysius Conry,	*De Febre Puerpera.*
George Alex. Fleury,	*De Hæmorrhagia uterina.*
Samuel Neill,	*De Hepatitide.*
Philip O'Reilly,	*De Pneumonia.*
John Gray,	*De Dysenteria.*
James H. Cardiff,	*De Ophthalmia Purulenta Contagiosa.*
John Moorhead,	*De Oculo Humano.*
Francis Skelton,	*De Respiratione et Sanguine in Regionibus Tropicis.*

	From JERSEY.
David de Quetteville,	*De Asphyxiæ Causis.*
	From BOMBAY.
John Ashburner,	*De Hydrophobia.*
	From BARBADOES.
Joseph Wilson,	*De Digitali Purpurea.*
Henry Evans Holder,	*De Actione Erysipelatosa ab inflammatione prorsus distinguenda.*
John Henry Leacock,	*De Hæmorrhagiæ effectibus.*
	From St KITT'S.
Robert Caines,	*De Frambæsia.*
	From MARYLAND.
Thomas Harris Maddox,	*De Febre Flava.*
	From CAROLINA.
Walter Ewing,	*De Ophthalmia.*

Medical Lectures in the University of EDINBURGH.

Dietetics, Materia Medica, and Pharmacy	Wednesday, Oct. 30.	8	Dr Home.
Practice of Physic		9	Dr Gregory.
Chemistry & Chemical Pharmacy		10	Dr Hope.
Theory of Physic		11	Dr Duncan, sen.
Anatomy and Pathology	Wed Oct. 30. 1 o'clock.		Drs Monro.
Principles & Practice of Surgery	WedNov. 13. 4 o'clock.		
Theory & Practice of Midwifery	Tues. Nov. 12. 3 o'clock.		Dr Hamilton.
Clinical Medicine	Tues. Nov. 12. 4 o'clock.		Dr Duncan, sen. Dr Rutherford.
Clinical Surgery	Mon. Nov. 4. 5 o'clock.		Mr Russell.
Military Surgery	Sat. Nov. 16. 1 o'clock.		Dr Thomson.

Practical Anatomy under the superintendence of Dr Monro, jun.

During the Summer Session, Lectures will be given on the following Branches of Education :

Botany, by Dr Rutherford.
Midwifery, by Dr Hamilton.
Clinical Lectures on Medicine, by Dr Home.
———————— on Surgery, by Mr Russell.
Medical Jurisprudence, by Dr Duncan, jun.

Dr Clutterbuck will begin his *Autumn* Course of Lectures on the *Theory and Practice of Physic, Materia Medica, and Chemistry*, on Wednesday, October 2, at Ten o'clock in the morning, at his house, No. 1, in the Crescent, New Bridge Street.

Pupils admitted, as usual, to attend the Medical Practice of the *General Dispensary*, Aldersgate Street, where *Clinical Lectures* will be given weekly, by the Physicians in rotation, on the most interesting Cases that occur.

For particulars, inquire of the Apothecary at the Dispensary.

In the Press,

Oracular Communications, addressed to Students of the Medical Profession, by Esculapius.

> "Inveniam viam, aut faciam."—Lord Bacon.
>
> "Nec Deus intersit, nisi dignus vindice nodus
> "Inciderit."—Hor. *de Arte Poetica.*

Dr Adams has in the press, "An account of the Life, Doctrines, and Opinions of the late Mr John Hunter, containing a perspicuous statement of his Discoveries, and of the Pathology of Surgery, as before his time." The Work will be embellished with a fine Medallion Portrait of Mr Hunter, from a cast taken during life.

ERRATA.

Page 197, line 24, *for* effused blood *read* blood effused
———————— 31, *for* the *read* no
—— 139, —— 19, *for* those *read* the
———————— 29, *for* least *read* last
—— 200, —— 31, *for* Juster *read* Future
—— 201, —— 34, *add* alterno die *after* decem, and *delete* Alterno mane *in the following line.*

⁂ Communications have been received from Dr Dickson, Dr Lyall, Mr Kennedy, Mr Gill, and P. J.; and publications for review by Professors Joseph Frank and Scarpa; Drs Jurine and Albers; Drs Armstrong, Scudamore, and Calvert; Messrs Pring, Riong, Wishart, and an anonymous author, on the Animal Economy,—of which as many as possible will be noticed in our next Number.

⁂ Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; Messrs Longman, Hurst, Rees, Orme, & Brown, London; and John Cumming, Dublin. And we have to request our Continental friends to send any thing larger than a *single* letter to the care of Messrs Perthez and Basser, Booksellers, Hamburgh, as the expence of sending journals and packets by the post to this country is enormous.

No. XLIX. will be published on the 1st of January 1817.

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